

Ice Cracks: Moving Decision-making Forward by *Planning-to-Plan*

**A Monograph
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Abstract

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There are a variety of military decision-making frameworks that provide useful sequences to problem-solving. However, planning groups rarely engineer creative answers by simply following the checklist steps of frameworks such as the Army's Military Decision Making Process (MDMP). Instead, innovative solutions emerge as a result of the synthesis and collaborative learning that occur when individuals engage each other in open dialogue.

Planning-to-plan addresses designing and building a planning architecture that facilitates open dialogue, learning, and synthesis within a planning group. Planning architecture augments the already existing doctrinal steps of traditional decision-making processes to provide planners with precedence for the employment of planning resources. By designing an underlying structure to a military planning effort, a planner can shape the nature in which a group reaches decisions.

This monograph creates awareness to techniques that seasoned planners use to empower their planning groups. Moreover, it argues that a standard approach to the development of a planning architecture can aid the Army planning community. Research includes interviews, a questionnaire that solicited insights from thirty-six experienced military planners from various nations, and reviews of relevant academic, business, and military planning literature. Many contributions originate from planners who were deployed in operations in Iraq and Afghanistan at the time they provided feedback. Finally, the monograph draws upon two historical examples to illustrate some of the concepts of *planning-to-plan*: the Falklands Islands War and the 1912 race to the South Pole between Amundsen and Scott.

The race to the South Pole inspired the title "Ice Cracks." In the polar-regions, large chunks of floating ice drift along according to the direction and speed of oceanic currents. Along the journey, the ice cracks, splits-away, reconfigures, and regroups, but continues to move in the direction and at the rate of the current. A planning group works in the same manner. The ice-chunks represent the tangible entities of planning such as decision-making models, people, and capabilities that float on an ocean of information. The group's application of a planning architecture generates the speed and direction of the current.

This monograph uncovers the methods that drive a group towards synthesis. Furthermore, it lays a foundation for follow-on study regarding the architecture of planning in a group environment.

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INTRODUCTION

On April 2nd, 1982, Argentina seized Britain's Falkland Islands. By April 5th, Rear Admiral Sandy Woodward's British First Flotilla sailed towards Ascension Island under the notion that the United Kingdom might have to forcibly retake its territory. While Prime Minister Margaret Thatcher and the British Parliament debated over going to war, Woodward found himself and his battle group steaming towards the South Atlantic to face an unknown enemy and a complex situation with no specific guidance from his higher headquarters. In a state of disbelief, Woodward did the only thing a seasoned commander could do - he assembled his staff, looked at the possibilities, and made a plan. Woodward stated "that it was almost impossible to predict the nature of such a war, so we went on doing all that we could with the very limited means available at that stage."¹

RADM Woodward's experience at the onset of the Falklands War exemplifies the difficulties that military commanders and planners can experience when planning military operations. Decision-makers often have to formulate tactical actions for complex problems in a time compressed environment with limited situational understanding or guidance from higher. Planning for military operations usually involves the use of decision-making models to solve 'wicked' problems that have no optimal solution.² Planners use these models as frameworks to integrate the knowledge, experience, and perspectives of many people to derive the best decision alternatives for action. The U.S. Army, for example, uses the Military Decision Making Process

¹ Sandy Woodward, *One Hundred Days* (Annapolis, Maryland: Naval Institute Press, 1992), 77. Fleet Headquarters notified RADM Woodward at 2130 hours on April 7th, 1982 that the United Kingdom had announced an Exclusion Zone around the Falkland Islands. This was the point at which he realized the inevitability of war with Argentina – although the UK never officially declared war. He discusses the difficulties of planning in a complex environment citing an example of how strategic level influencers such as diplomatic visits by General Alexander Haig who sought a negotiated settlement wrecked havoc on planning. He also offers insights into how frequent planning meetings promoted interaction and camaraderie for his subordinates in the face of imminent battle.

² From a lecture given by a prominent author concerning the cognitive dimensions of leadership at the School of Advanced Military Studies, Fort Leavenworth, Kansas, 7 Dec 05. His identity has been withheld according to the school's policy of non-attribution.

(MDMP) as its primary engine for problem-solving. In theory, the MDMP provides a group with a common footing of procedural understanding that enables its members to navigate from problem to solution. In practice, however, planners must use additional processes and techniques beyond the scope of doctrinal planning models to optimize the performance and outputs of their planning groups. Planning, in large measure, depends as much upon the structure of planning as it does decision-making frameworks that a group employs to guide its planning effort.

The Importance of a Planning Architecture

An underlying structure to planning exists that governs how a group approaches decision-making. This architecture balances decision-making requirements with planning resources as a group engages the steps of a decision-making model. In reality, military planning unfolds as a system that consists of a decision-making model which operates within a grander system of architecture (see Figure 1, Planning as a System within a System).³

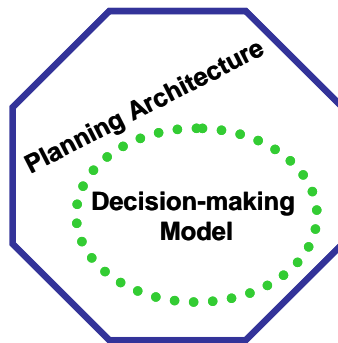


Figure 1- Planning as a System within a System

The phrase '*plan-to-plan*' describes the process by which a planner designs the architecture that defines how his group will conduct planning to support the decision-making needs of a command. The architecture provides a mechanism for planners to organize and

³ M. Scott Weaver at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 30 October 2005. Lieutenant Colonel Weaver has over six years of planning experience at the division, Army, and combatant command levels as a U.S. Army officer. He suggests that planning can be viewed as a process within a process and that the planning architecture functions much like a scaffolding from which a planning group works to shape the outputs generated through the use of a decision-making model.

marshal the progress of a planning effort. Planners generally conceptualize the architecture at the beginning of a problem-solving process and then modify it as required by the dynamics of the planning environment. A well orchestrated *plan-to-plan* connects individuals and resources in such a manner that a group can collectively meet the planning demands of decision-makers and commanders. Arguably, the outcome of planning depends as much upon the architecture of planning as it does upon the decision-making models that frame the problem-solving process.

Overview of the Problem: The Planning Dilemma

One fundamental dilemma of planning concerns how to establish an architecture that facilitates decision-making in a group environment. Most decision-making models available to military planners (see Appendix One, Review of Doctrine) provide adequate frameworks for problem-solving. However, U.S. doctrine stops short of elaborating on the ‘softer’ side of planning concerned with the utilization of resources such as people, information, time, and equipment. Moreover, there is no doctrinal discussion of the importance of planning architecture or suggestions of methods regarding the design, orchestration, or operation of a planning group. In the final analysis, the ‘soft’ elements of planning become the characteristics that shape most of the outcomes of a decision-making process. Without architecture to guide the application of planning resources, formal decision-making models remain sub-optimal in making decisions.

In lieu of doctrine on *planning-to-plan*, seasoned Army planners have developed an array of methods aimed at designing, building, and marshalling their planning groups. As a result, a wide variety of techniques have emerged within the Army planning community. While many of these techniques facilitate the architectural needs of particular staffs, their number does not necessarily translate well across the multitude of Army planning organizations. In many cases, the disparity of standing operating procedures (SOP) regarding the architecture of planning obstructs the interoperability of Army planning staffs. Seasoned planners usually possess the skill to bridge

this translational gap; however, novice planners often lack the knowledge, understanding, or experience to do the same.

There is no standardized doctrinal protocol that helps a novice planner design, build, and marshal a planning effort. Techniques used by experienced military planners to benefit group planning remain isolated to unit SOPs. In recognition of this, the Army recently launched an Internet website to encourage more dialogue about planning, but its access is restricted.⁴ Novice planners, therefore, are forced to learn by trial and error. For the most part, they rediscover the techniques that seasoned military planners already know. The problem is that the cultivation of a competent planner with experience requires a great deal of time.

U.S. Army Lieutenant Colonel Phil Baker witnessed, first hand, what occurs as a result of poor *planning-to-plan* when he joined Joint Task Force Haiti Assistance Group (JTF HAG) in August of 1993:

Everything was in chaos. Planners from all services were thrown together trying to figure out what they were doing without much organization. Lots of people were just doing what they thought they needed to do; what they were comfortable with whether or not it had anything to do with the plan. Everybody at least looked busy. In the middle of this chaos was a Marine lieutenant colonel under a lot of pressure trying to produce an operations order. I remember that chairs were scarce; if you left yours for even a second, someone stole it.⁵

The JTF HAG example demonstrates some of the problems that can occur when planners do not establish a viable planning architecture. The fact that “everybody...looked busy” does not necessarily correlate to effectiveness of a planning effort. To the contrary, chaos usually indicates a lack of direction and a dysfunctional *plan-to-plan*.

⁴ The Command and General Staff College at Fort Leavenworth, Kansas established SAMSNET in 2005 as a conduit for open dialogue between planners. While having the site is an important step forward, it has not yet received much attention from the Army planning community.

⁵ Walter E. Kretchick, Robert F. Baumann, and John T. Fishel, *Invasion, Intervention, “Intervasion:” A Concise History of the U.S. Army in Operation Uphold Democracy* (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College Press, 1998), 35.

The Challenges to Planning Execution

A *plan-to-plan* reduces friction associated with the conduct of planning. This friction exists as a result of several planning challenges that include deadlines, obtaining planning resources, dealing with people, leading, and building planning groups that learn.

Deadlines. Management expert Peter F. Drucker believes that decision-making success does not begin with planning, but rather with an understanding of how organizations use or misuse time. Planning almost always occurs in a time constrained environment which forces planners to balance decision-making products with quality of synthesis. Because time is often in short supply, planners detract from planning in order to meet deadlines.⁶ By doing so, they risk inducing a spiral of poor decisions that can result in long-term adverse implications for the organization they support.

Obtaining the necessary resources. Necessary planning resources include the *right people*, the *right integration*, and the *right leadership*. One of the most important factors that enables a planning group to generate innovative solutions to complex problems is the group's ability to learn as a situation unfolds. Learning occurs when people with diverse expertise, knowledge, and perspectives engage each other in open dialogue and share ideas. The skills needed to empower learning depend upon the context of the problem that the group faces. Planners may need to obtain people with particular subject expertise to augment their planning effort. Ideally, these people, known as subject matter experts (SMEs), are readily available to help a planning team. In the case that they are not, a planner must task an existing team member to research needed subject areas. By redirecting a planning group member away from his primary role as a planner, the group loses some problem-solving momentum.

⁶ Peter F. Drucker, *The Effective Executive* (New York: Harper Collins Publishers Inc., 1967), 25-7.

Integrating new members into a planning group poses another challenge to planning. The achievement of understanding, consensus, and commitment among planning group members consumes a great deal of time and energy. Failure to integrate new members can reduce a group's effectiveness because of the turmoil associated with constant rotations and exchanges of people. Inadequate integration techniques can also lead to *stove-piping* and *compartmentalization* within a planning group. These emergences result when some members of a planning group isolate themselves and continue to work disconnected from the rest of the planning group. Dialogue ceases and common understanding within a planning group subsequently vanishes. These challenges only increase in magnitude as a group geographically disperses. While virtual collaboration tools render a solution to the physical separation of planning group members, technology may not offer the same venue for collaboration that face-to-face dialogue allows.⁷

Dealing with People. Human behavior poses one of the greatest challenges for planners. People, by their nature, are unpredictable and often make irrational choices that have no footing in logic at all.⁸ In order to make sense of complicated situations, planners face the daunting task of generalizing how people will respond in a given set of circumstances. Because there is currently no model that accounts for why people behave the way they choose to behave, planners must rely upon contextual entities such as history, 'tribal' and family affiliations, and relationship linkages to anticipate actions. For this reason, human behavior stands as a leading factor that continues to confound even the most adept strategists.

⁷ Peter M. Senge discusses the 'creative tension' brought about by the gap that exists between vision and reality in his book *The Fifth Discipline: The Art and Integration of the Learning Organization* (New York: Currency Doubleday, 1990), 150. Geographic separation exacerbates the creative tension associated with achieving mutual understanding concerning abstract matters. The success of many businesses in corporate America linked solely through virtual conduits provides evidence that synthesis of geographically separated planners is perhaps as much a leadership dilemma as it is an integration challenge.

⁸ Neoclassical economist Adam Smith suggested that people are rational actors who always choose to act in their own best interest. However, history provides ample evidence that contradicts his theory. James J. Schneider, Ph.D. at the School of Advanced Military Studies, Fort Leavenworth, Kansas, 10 January 2006.

Behavior definitely impacts the inner-workings of a planning group. Those members, for example, who are particularly strong-willed habitually, overpower the other members of a group. This can result in the focus of planning shifting towards an inappropriate direction. Left unchecked, ego-driven personalities can spoil group learning and synthesis.

Bias also impacts planning. There are two forms of bias that planners commonly encounter: anchoring bias and conformation bias. Anchoring is the most prevalent form of bias which occurs when a person places too much emphasis on initial reports of information and becomes steadfastly anchored to one particular perspective. Confirmation bias occurs when a person develops a hypothesis regarding an event then selectively screens information that promotes its validity. Instead of objectively considering an array of indicators, he accepts only those that support his argument. He discards the rest. A person with confirmation bias will fail to develop alternate explanations for hypotheses even when there is an absence of information.⁹

Bias, like ego, can obstruct learning and synthesis within a planning group.

Leadership. Finding the *right* leader to guide a group through a decision-making process poses a challenge to command. Many planning groups exist on a temporary basis. Recognized as matrix organizations, these ad hoc groups consist of a compilation of core members augmented by additional people from other organizations. Once planning requirements are met, an ad hoc group generally disbands. Motivating the members of this type of group can be difficult and challenge the leadership skills of even the most adept planner.

It takes eleven years to produce a field-grade officer with the potential to lead a planning group at the division or higher level. Because planning is so crucial to the success of operations, the U.S. military has organized advanced military studies programs to teach prospective planners the art and science of decision-making. Unfortunately, these year-long programs educate a very

⁹ Chris Tatarka, "Overcoming Biases in Military Problem Solving Analysis and Decision-making," *Military Intelligence Professional Bulletin* (Jan-Mar 2002, Vol. 28, Issue 1), 8. Tatarka states that groups can overcome these biases with decision-support tools, training, and a "devil's advocate" approach to validating hypotheses.

limited number of students to *varying degrees of proficiency* because there is no standard curriculum among them. Moreover, the general population of Army planners do not benefit from these particular schools. On-the-job training and self-study still serve as the primary means through which the majority of Army planners learn the trade of planning.

Learning. Innovative solutions to complex problems hinge upon the learning capacity of a planning group. How well a group learns depends upon, among other things, its ability to sense and recognize change. Maintaining a collective awareness of a dynamic situation is challenging. Changes can happen so quickly or subtly that a group will often fail to recognize them. Furthermore, the feedback mechanisms they put into action to stay abreast of a situation may not deliver the necessary information required to recognize change. Additionally, factors such as differences in the background, education, training, language, and culture of the members of a planning group can obstruct a group's ability to learn. Even the discipline, rank, and structure of military organizations can inhibit learning. A Major in the Army, for example, may not feel comfortable freely discoursing with a Lieutenant General – especially if the general seems fixed in opinion.

The time, resources, human behavior, leadership, and learning challenges of planning pose surmountable obstacles to group decision-making. Unless a planner can identify techniques to overcome these challenges, his planning group will likely produce ineffective planning products that are either late, irrelevant, misunderstood, not agreed to by the operators that the planners support, or simply ill-conceived. Fortunately *planning-to-plan* provides a way to address these challenges that habitually plague planning groups.¹⁰

¹⁰ Nadim F. Mata and Ronald N. Ashkenas, "Why Good Projects Fail Anyway," *Harvard Business Review on Managing Projects* (Boston, Massachusetts: Harvard Business School Press, 2005), 3. Mata and Ashkenas provide a detailed analysis into organizational risks that can derail the success of complex projects. They offer many project-management lessons that can improve the effectiveness military planning groups.

Hypothesis

This study seeks to confirm that techniques exist within military, business, and academic circles that can augment the synthesis of military planning groups as their members negotiate the steps of decision-making models.

Overview of the Monograph Structure

“Ice Cracks” consists of six sections and one appendix. The first three sections focus on validating the hypothesis. The section entitled Language of Decision-making establishes a common framework of understanding regarding decision-making, planning, and *planning-to-plan*. Section three, *Plan-to-Plan* Mechanics, introduces the concept of architecture and describes the underlying structure to planning. It elaborates on three core elements of *planning-to-plan*: designing, building, and marshaling a planning group. It proposes that a standard method for *planning-to-plan* can increase the interoperability of planning groups across the Army planning community.

The fourth section presents several techniques that meet at least one of four criteria: focus, understanding, connectedness, and adaptation. Each technique was recommended by an experienced military planner or was discovered through research into academic, business, and doctrinal literature reviews. The author conducted numerous first-hand interviews with SMEs and used an electronic questionnaire to research the latest information from seasoned military planners. Many respondents provided information directly from the combat zones of Iraq and Afghanistan. The fifth section presents a capstone *plan-to-plan* model and discusses its use as a group planning tool. The monograph concludes with recommendations for follow-on study regarding *planning-to-plan*. Appendix One, Review of Doctrine, examines U.S. and North Atlantic Treaty Organization (NATO) military planning doctrine to identify material pertinent to *planning-to-plan*.

THE LANGUAGE OF DECISION-MAKING

In 1911, two teams set off on a nine-hundred mile race for the South Pole that would end in tragedy for one. Roald Engelbregt Gravning Amundsen, a detail-oriented Norwegian, intended to lead his team along a new and uncharted route to reach the Pole first. The route provided a start-point that was sixty miles closer than the approach used by other previously unsuccessful expeditions. Amundsen was a meticulous planner who hired experienced skiers and studied the dynamics of the environment. His team adopted ice-travel and survival techniques used by Eskimos and successful adventurers like Robert Peary.¹¹ Amundsen painstakingly labored over his plan for logistics and resources. He outfitted his five-man team with the finest equipment and took three to four back-ups for every essential piece of gear. He established ten well-marked depots packed full of supplies and food. Lastly, Amundsen decided that sled dogs provided the best method of transportation to cross the extreme landscape. He adopted a strategy of traveling no more than six hours in a day – equivalent to a distance of roughly fifteen miles.¹²

Amundsen's competitor was Robert Falcon Scott who was a British naval officer with experience in the region. Scott planned to reach the Pole by taking the same path that Ernest Shackleton attempted during his failed *Nimrod* expedition. Rather than use sled dogs, Scott decided to employ motorized sledges, ponies, and man-hauling. "In my mind," Scott pontificated, "no journey ever made with dogs can approach the height of that fine conception which is realized when a party of men go forth to face hardships."¹³ The sponsors of his *Terra Nova* Expedition enthusiastically supported the confident Brit.

Unfortunately, Scott's plan fractured when unexpected cold weather dropped the temperature on Beardmore Glacier to ten degrees below the norm for that time of year. Surprisingly, the climactic anomaly did not affect the Norwegians. Amundsen had outfitted his

¹¹ Peary was an American who became the first man to reach the North Pole on April 6th, 1909.

¹² Jeff Rubin, *Antarctica* (Victoria, Australia: Lonely Planet, 2005), 47-8.

¹³ Peter Matthiessen, *End of The Earth: Voyages to Antarctica* (Washington, D.C.: National Geographic Society, 2003), 158.

team in furs while Scott had selected cotton clothing to support the heavy labor associated with man-hauling. Furs cause too much perspiration which freezes to the skin once a man stops moving and his body cools. Cotton clothes are lighter and limit the adverse effects of sweat – and man-hauling a two-hundred pound sled causes a person to sweat even at minus fifty degrees Celsius.¹⁴ The cold temperature overcame the protective capabilities of the clothes and each of Scott's men developed severe frostbite. One man required over an hour just to get his boots on in the morning due to the swelling of his gangrenous, frostbitten feet. Snow-blindness also plagued the team because Scott had chosen to use goggles that did not adequately shield the eyes from horizontal snowfall.¹⁵

Scott arrived at the South Pole on January 12th, 1912 to find a hand written note from Amundsen. The Norwegian team had reached the South Pole thirty-five days earlier claiming the polar plateau for Norway and dubbing it King Haakon VII Land.¹⁶ Defeated, Scott turned his attention to retrieval of geologic specimens. Each man was already suffering from malnutrition and scurvy, but Scott ordered the group to carry an additional thirty-five pounds of rocks. Hundreds of miles from the base-camp with no means of communication, their situation became bleak. Logistics planning failures started to cause problems. Supply points were too far apart, not suitably marked, and were insufficiently stocked. To make matters worse, Scott had added a fifth traveler to his team the night before departure even though supply points had been stocked for only four.

Halfway through the return trip, one of Scott's men became delirious and died. A few hundred miles later, another man muttered something about becoming a liability to the group and walked off into a blizzard. Scott and the remaining two members survived for a few more days,

¹⁴ Sir Ranulph Fiennes, *Race to the Pole: Tragedy, Heroism, and Scott's Antarctic Quest* (New York: Hyperion, 2004), 375.

¹⁵ Had Scott chosen dogs over ponies, his team may have fared better. Huskies have nictitating eyelids that protects their eyes from horizontally blowing snow.

¹⁶ Rubin, *Antarctica*, 48.

but died approximately one-hundred and fifty miles south of the base camp.¹⁷ Scott's death unleashed a fury of intense scrutiny in Great Britain. Many people blamed Scott for his poor leadership. Others lambasted his failure to properly plan. Another possible explanation for Scott's demise is that he never developed a viable planning architecture.

The architecture of planning accounts for the approach a planning group uses to arrive at decisions. Scott's domineering personality stifled his team. Those who disagreed with him at the onset risked dismissal from the expedition. In fact, an expectation of blind obedience explains why Scott waited until the very final days prior to departing to reveal who would accompany him to the Pole. Amundsen also had a forceful personality, but he relied more upon methods of open dialogue and team meetings to plan and build consensus. Moreover, Amundsen encouraged his team-members to learn from the techniques that had worked for Eskimos and other successful ice-travelers. Scott's pride, conversely, caused him to fixate upon man-hauling even though the acclaimed explorer Fridtjof Nansen advised against the technique and recommended the use of sled dogs. During the return trip, Scott's team never thought to move at night during periods of less wind or travel north with the sun behind them to solve the problem of snow blindness.¹⁸ A more effective *plan-to-plan* may have inspired the dialogue necessary to craft the innovative solutions needed to survive. Before he died, Scott made one final addition to his meticulously detailed diaries. "We shall die like gentlemen. I think this will show that the spirit of pluck and power to endure has not passed out of our race."¹⁹

¹⁷ Fiennes, *Race to the Pole*, 239-365.

¹⁸ Matthiessen, *End of the Earth*, 158.

¹⁹ John C. Maxwell, *The 21 Irrefutable Laws of Leadership: Follow Them and People Will Follow You* (Nashville: Thomas Nelson Publishers, 1998), 36.

Plans

A plan is “a *design* for a future or an anticipated operation.”²⁰ Plans consist of a logical sequence of decisions that demonstrate how an organization will attain objectives envisioned by its leader. A commander uses a plan as a framework from which he can direct the activities of his subordinates. Plans translate a commander’s vision into descriptive actions that subsequently focus and energize the members of a military unit. The details of a plan provide a common basis of understanding needed to harness the potential of a command’s subordinates and resources. Henry Mintzberg, a prominent business strategist, defines a plan as an “explicit statement of intentions” that performs the two essential functions of communicating and controlling.²¹

Beyond making sense, effective plans *communicate* so that its recipients understand their roles in the accomplishment of a mission. Plans broaden organizational understanding and heighten individual awareness by describing the characteristics of a situation. Military plans usually include an overview of enemy and friendly forces positioned in an area of operations (AO). This situation overview also discusses environmental conditions that may possibly relate to the conduct of operations. After establishing a common picture of the AO, a commander outlines his vision (end-state) and describes how he intends to employ forces to achieve it. Some of the unique contents of military plans include: a commander’s intent which describes his vision of the end-state; a concise mission statement; a concept segment that depicts how an organization will accomplish its mission; and specific instructions with appropriate detail for each subordinate element.

A good plan *controls* the actions of subordinates and regulates the internal workings of an organization. Goals, objectives, tasks, graphic control measures, and timelines all act as control mechanisms. Success-criteria define and gauge the performance of actions so that decision-

²⁰ U.S. Department of the Army, Field Manual (FM) 5-0: *Army Planning and Orders Production*, 15 July 2002, G-3.

²¹ Henry Mintzberg, *The Rise and Fall of Strategic Planning* (New York: The Free Press, 1994), 32 and 351-352.

makers can adapt to the dynamics of a situation. “A plan is a framework from which to adapt, not a script to be followed.”²² Since military operations rarely unfold according to the design of a plan, trusting commanders grant their subordinates some latitude to exercise their judgment during an operation. Good plans control, but also account for the flexibility of sound judgment.

Field Marshal Viscount Slim believed that *timing* was the defining characteristic of a good plan. “The essence of all military planning is timing. A brilliant plan wrongly timed, put into operation too early or too late, is at best a lame thing and at the worst may be a disaster.”²³ For this reason, many military leaders adhere to the adage that communicating a seventy percent solution *on-time* is far better than providing subordinates with a one-hundred percent plan too late. Timeliness, to a great extent, determines the effectiveness and relevance of a plan.

Planners

Dutch artist Vincent van Gogh once commented that he dreamed of painting then painted his dream.²⁴ Military planners operate in a similar fashion as they design a planning effort to solve complex problems. Expert planners help others to “paint by numbers.” By guiding people to pick the *right* color and apply it to the *right* place, others can imitate art. Planners translate the vision of a commander into lines and numbers so that a greater number of people can contribute to a planning effort.²⁵ Mintzberg further defines the function of planners to include strategists, analysts, catalysts, and people who plan according to accepted strategies.²⁶ Commanders often turn to planners to determine emergent strategies that provide contextual reference for current or future operations. Planners help commanders envision how missions fit into the larger picture of

²² FM 5-0, *Army Planning*, 1-2. FM 5-0 also states that planners must guard against ‘lockstep thinking’ and ‘extreme’ discipline that are associated with inflexible planning, 1-27.

²³ Viscount Slim, *Defeat into Victory* (London: Cassell & Company Ltd, 1972), 294. Field Marshal Viscount Slim made these comments as he fought the Japanese in Burma during the Second World War.

²⁴ Van Gogh Museum, Amsterdam.

²⁵ Vincent Brooks at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 12 September 2005.

²⁶ Mintzberg, *Strategic Planning*, 361.

operations. As analysts, planners merge expectations with reality to forecast events and analyze how their forces can interrelate within their operating environment in order to achieve their objectives.²⁷ As catalysts, planners promote open dialogue, collaboration, and person-to-person interaction to enhance learning, understanding, and adaptation. Ideally, planners are well versed enough in planning doctrine and techniques to synthesize the members of a planning group to satisfy the decision-making needs of a command.

Decision-making and the Role of Decision-making Models

A decision is a judgment in which a decision maker chooses an option from several alternatives. The reality of decision-making in a complex environment is that commanders often have to select one from among several virtually equivalent choices. Occasionally, an opportunity presents itself clearly enough to enable a commander to make a bold decision. In most cases, however, no clear-cut answer readily stands-out as definitely right or definitely wrong. Decision makers usually have to commit to one option that is “almost right” and discard others that are “probably wrong.”²⁸ Ultimately, decision-making is a “creative act” that occurs as a result of a commander’s intuition, temperament, and perception.²⁹

A group decision-making process has two approaches: inquiry and advocacy. Inquiry is a process in which decision makers collaborate through open dialogue to generate multiple options. Planning group members engage each other in debate to brainstorm ideas and logically reach solutions. Advocacy, on the other hand, occurs when the members of a group vie for a particular alternative based upon a self-interested agenda. Of the two processes, inquiry decision-making tends to produce superior results in a more time-effective manner given equal and effective

²⁷ Mark Solseth at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 11 July 2005.

²⁸ Drucker, *Effective Executive*, 143.

²⁹ Lothar Rendulic, *Command Decision*, printed for the Headquarters, European Command (Washington, D.C.: Department of the Army, May 1958), 17.

implementation.³⁰ In either case, innovative solutions result when a group uses open dialogue to synthesize and learn.

Military planning groups employ decision-making frameworks to solve problems and direct the actions of subordinates. These frameworks rely upon a sequence of steps to focus a group onto relevant factors regarding a problem. Each U.S. military service maintains its own version of a decision-making framework (see Appendix One, Review of Doctrine). While they have different titles, they share the same foundation of the scientific approach. According to the scientific approach, decision-makers define a problem, hypothesize a solution, apply theories, act, and assess the outcomes of their actions.³¹ While this construct serves an important role in a planning effort, the outcome of planning depends more upon the synthesis and learning that a group achieves.

Innovative solutions to complex problems stem from open dialogue between creative and critical thinkers. Creativity concerns the ability of a group to make connections so that it can see what no one else is seeing.³² A creative orientation enables groups to identify new patterns to generate alternatives as its members synthesize information. An effective planner recognizes the importance of establishing the conditions that motivate planning group members to explore non-traditional approaches. He also encourages those members to think critically and challenge arguments and ideas being presented.

³⁰ David A. Garvin and Michael A. Roberto, "What You Don't Know About Making Decisions," *Harvard Business Review on Managing Projects* (Boston, Massachusetts: Harvard Business School Press, 2005), 161-4.

³¹ There are other models that military planners occasionally use to augment decision-making. Descriptive models graphically represent a situation. Blueprints, scale-models, paintings, or storyboards are examples of descriptive model imagery. Analogue models depict actual physical entities with alternate means. For example, the location of a U.S. Army unit will appear as a blue icon on a Blue Force Tracker monitor. Symbolic models apply math and logic to capture the variables associated with real-life situations. Finally, recognition-primed models promote decisions that are made from experience and situational awareness. Refer to Max D. Richards and Paul S. Greenlaw, *Management Decision and Behavior* (Berkeley, California: Ten Speed Press, 2001).

³² Michael Michalko, *Cracking Creativity: The Secrets of Creative Genius* (Berkeley, California: Ten Speed Press, 2001), 15.

Critical thinking benefits a planning effort because it forces planners to challenge the logic of a discourse. Healthy dialogue can be compared to that of a legal debate in which people defend their ideas before an assembly of interested parties. While planners must ensure that constructive conflict does not turn into an emotional dispute between group members, a dialogue consisting of point/counter-point challenges guards against the emergence of group-think. This process helps to refine concepts and flush out any weaknesses in logic prior to committing to a particular decision.³³ Planning, therefore, is not a regimented process that rigidly runs the gamut of decision-making model steps. Instead, it is a product of learning that results from focused discourse between creative and critical thinkers.

The Science and Art of Planning

Planning functions as both a science and art. According to the scientific method, planners define a problem, hypothesize a solution, apply theories, test solutions, act, and assess the effectiveness of actions. Formal military decision-making models follow a similar script.³⁴ Military planners weigh requirements against capabilities, identify limitations, and flush out vulnerabilities as they derive acceptable, feasible, and supportable courses of action that solve the problem. Over time, decisions made as a result of the scientific method consistently produce better results than those derived through intuition.³⁵

Michael Lewis' *Moneyball* demonstrates the power of scientific analysis. Lewis describes how Oakland Athletics General Manager, Billy Beane, used statistics to turn his losing baseball team into the 1999 American League Champions. Instead of relying upon traditional intuitive scouting practices, Beane and his economics oriented Harvard partner developed a

³³ One technique that promotes critical thought during dialogue is to assign at least one person as a heretic. This helps validate the logic of ideas presented in discourse.

³⁴ U.S. Department of Defense, *Joint Publication 5.0: Doctrine for Joint Operations Planning*, 10 August 2005, III-7 to III-36. JP 5.0 outlines the formal steps of decision making at the Joint level.

³⁵ Mintzberg, *Strategic Planning*, 327. According to Mintzberg, experimentation has shown that intuitive decisions based upon judgment have substantially higher probability for errors than analytical decisions which stem from the use of a formal decision making process.

numerical method for determining the best players in baseball. They determined that a player who drew more bases on balls or walks had a direct correlation to winning percentages. While traditional scouts remained enamored by flashy statistics such as bases stolen, Beane focused on obscure metrics often overlooked by scouts who predominantly relied upon their judgment and experience to identify their player-picks. Under Beane's tutelage and a new analytical system of measurement, the Athletics acquired lower salary players that no other team wanted. Subsequently, the Oakland Athletics rallied from being one of the worst, underpaid teams in baseball to become one of the best. Beane's risked discarding the old, romantic notions of intuitive decision-making and opted for a new method based upon statistical analysis – and it worked.³⁶

While science and analysis are essential elements of effective decision-making, they can never substitute for factors of experience, intuition, and judgment that characterize the art of planning. Intuitive decisions involve solutions that *work*, but do not necessarily have a rational explanation based upon scientific precedence. These decisions stem from judgment, experience, expertise, intelligence, training, boldness, perception, character, and intuition. History is wrought with examples of commanders who have made appropriate decisions based solely upon what they *knew* to be right. Intuitive decisions have several advantages. They can account for the latest developments and emergent conditions found in an operating environment. They can save time by foregoing lengthy analysis. They capitalize on the commander's arsenal of experience. And, they can prove especially effective for adapting to the ever changing dynamics of a complex problem. The Army has recognized the importance that intuition plays in decision-making and has devoted several sections of doctrine to its discussion.³⁷

³⁶ Michael Lewis, *Moneyball* (New York: W.W. Norton & Company, 2003).

³⁷ U.S. Department of the Army, Field Manual 6-0: *Mission Command: Command and Control of Army Forces*, 2003, 2-4. Also, FM 5-0, *Army Planning*, pp. 1-6 to 1-7.

The environment in which the military habitually operates demands that a planner approach planning as both an art and science. Some argue that decisions brought about by scientific analysis take too much time. They say that this approach often fails to account for the latest emergent trends found in the operating environment. Others argue that intuition is inherently flawed and untrustworthy and that science should always override responses based upon judgment. Military planning doctrine supports the notion that decision makers must balance intuition and analysis as they solve problems. The U.S. Marine Corps, for example, defines planning as “the art and science of envisioning a desired future and laying out effective ways of bringing it about.”³⁸ Army and Joint doctrine follow the same logic and qualify the characteristics of art and science as essential to effective planning.³⁹

Planning as a Dynamic Improvisation

An effective planning group derives innovative solutions to complex problems similarly to the way that jazz musicians improvise. Instead of following a prearranged score like orchestra musicians, jazz musicians rely upon the structure of a base-line and key to create an interactive dialogue. A musical discourse emerges as the jazz musicians communicate to each other through their instruments. The members of the group sense patterns in the interaction to which they contribute their unique capabilities to form a collaborative ‘sound.’ One musician, for example, might call-out with his trumpet only to be answered by a trombone. Someone else may instigate a crescendo that compels the rest of the ensemble to follow-suite and play louder. Another might push the tempo faster or draw-back into a slower, mellower mood. Within this context, the musicians adapt their personal approach to the musical theme that the group originates.⁴⁰

³⁸ U.S. Department of the Navy, *MCDP 5: Planning*, 1997, 3.

³⁹ FM 5-0, *Army Planning*, 1-28.

⁴⁰ Donald A. Schön, *Educating the Reflective Practitioner* (San Francisco: John Wiley & Sons Inc., 1987), 30.

Well-synthesized planning groups operate in the same manner. Members with various skills engage each other through dialogue to learn. This methodology supports the principle of Plato's dialectic which states that, "two people, by challenging and responding to each other, can come closer to the truth than either one could himself."⁴¹ Discourse allows planners to exchange ideas and achieve a higher level of critical thinking. Like jazz musicians, planners can not anticipate the conclusions of a decision-making process at the onset of planning. Rather, innovative solutions to complex problems emerge only when a group synthesizes and learns as a result of open dialogue and debate.⁴² The architecture of planning ultimately determines the nature of this synthesis and the quality of decision-making outputs of a planning group.

The Importance of Planning-to-Plan

Planning-to-plan addresses how a planner designs, orchestrates, and marshals the resources of a planning group to enable learning and synthesis. Groups that learn and synthesize produce a higher quality of decision-making outputs because they harness a greater potential of their planning resources. This environment of effective planning is characterized by open dialogue and debate. A group that is dominated by a dogmatic Scott-like character who discourages input from his team will rarely be able to collectively derive the innovative solutions that groups led by a more inclusive, Amundsen-like leader can. *Planning-to-plan* focuses on the creation of a learning-based planning group that gainfully employs *all* of its capabilities to maximize the qualities of its decision-making outputs.

In light of on-going military operations in Iraq and Afghanistan, it appears that Army planners will continue to face complex problems that demand innovative solutions. *Planning-to-*

⁴¹ Ervin Laszlo, *The Systems View of the World: A Holistic Vision for our Time* (Cresskill, New Jersey: Hampton Press, Inc., 1996), 26.

⁴² Shimon Naveh at the Headquarters of the 35th Infantry Division, Fort Leavenworth, Kansas, interview by author, 18 January 2006. General Naveh states that the complexity of the operating environment requires that junior officers be proficient in the logic of meta-thinking as well as the logic of tactics. Meta-thinking refers to how a situation impacts the way one thinks. This emergence has brought about a new echelon of tacticians who are capable of both action and design.

plan offers a method that can help. By incorporating beneficial techniques with a model that replicates the underlying structure of a planning effort, a planner can facilitate an environment in which a planning group collaborates to learn and synthesize. The following section examines the mechanics of *planning-to-plan* to garner a better understanding of what is involved with the performance enhancement of planning groups.

THE MECHANICS OF *PLANNING-TO-PLAN*

Planning-to-plan brings to bear the *right* combination of planning resources at the *right* time to optimize decision-making. How a planner employs the resources of a planning group to satisfy the decision-making requirements of his command depends upon his architecture of planning. Designing the structure to planning begins once a planning group has recognized a requirement to collectively solve a problem.⁴³ A planner uses a design to organize and employ planning resources with the goal of determining the best approach that balances decision-making requirements with the capabilities of a planning group. If designed, built, and marshaled appropriately, a *plan-to-plan* increases the likelihood that a group will learn and synthesize as it conducts planning.⁴⁴

Designing a Planning Architecture

Once a planner identifies a need to conduct problem-solving with a planning group, he designs a concept for the organization and employment of planning resources. A seasoned planner will habitually take a period of time to reflect on the best way to approach planning in a group environment. Dr. Gordon Rudd of the Marine Corps' School of Advanced Warfare (SAW) refers to this period as "push-back." By taking some time to contemplate, a planner gains perspective on the nature of a problem.⁴⁵ He can then formulate a design that better addresses its particular characteristics so that a group is more likely to synthesize and learn as it conducts planning.

⁴³ Most of the time, planning groups initiate their own requirement to plan. Army Major Keith Hood, a Stryker battalion operations officer, states that in over four months of combat in Iraq, his unit received mission directives from its Marine higher-headquarters only twice. Hood, Michael K., email message to author, 20 December 2005.

⁴⁴ Mark Solseth originally defined *planning-to-plan* as how a planner thinks about, organizes, and exercises planning in a group environment. Seventy-percent of the questionnaire respondents agreed with this definition.

⁴⁵ Gordon Rudd, Ph.D. at the Marine Corps' School of Advanced Warfare (SAW), Quantico, Virginia, interview by author, 18 November 2005.

Seasoned planners understand the important role that reflection plays in decision-making. While novice planners often launch immediately into the steps of a formal decision-making framework, seasoned planners approach decision-making in a more pragmatic fashion by formulating a *plan-to-plan*. Rather than scurrying into a frenzy of mindless work, experienced planners take a step back to think about methods that will enable learning and synthesis. When planners do not *plan-to-plan*, they risk haphazardly exhausting their planning resources on things that do not matter to the problem-solving effort. Planners who do not *plan-to-plan* risk wasting time and frustrating group members. They also increase the likelihood that a planning group will have to retrace preliminary decision-making steps at an inconvenient point later-on in the planning process. Planners who initially take time *plan-to-plan* habitually foster more efficient planning efforts because in the case of planning with a group, “slow is smooth and smooth is fast.”⁴⁶

The design of planning determines how a group organizes and employs its planning resources to learn. Learning occurs through an environment in which open dialogue exists. Effective planning includes a forum in which planning group members can engage each other to share and critique ideas.⁴⁷ A collaborative environment improves the probability that a planning group will derive innovative solutions to the complex problems. A planner should, therefore, devote ample time at the onset of planning to the design of a planning effort.

A planner must also consider the nature of the complex problem that a command has challenged a group to solve. The nature of the problem will influence the organization and employment of planning resources. Planning for a full-scale conventional force-on-force offensive, for example, differs from the planning needed to feed starving people in a Third-world

⁴⁶ Mark Solseth at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, August 2005.

⁴⁷ Shimon Naveh at the Headquarters of the 35th Infantry Division, Fort Leavenworth, Kansas, interview by author, 18 January 2006.

nation. It is important to note that a planning group's commander will likely have guidance regarding his expectations of planning based upon the context of the problem.⁴⁸

A planner designs a planning group according to time available for decision-making. Deadlines constrain the amount of time in which a planner can allocate certain resources to particular efforts in a decision-making process. Therefore, a planner must synchronize planning timelines with operational timelines. By cross-analyzing the two timelines, a planner can better anticipate periods of increased activity that will require a surge in planning. This helps a planner establish a battle rhythm for planning group members. Effective planning time management includes rotational schedules that create a foundation of predictability and structure. This precedence synthesizes a group with respect to time. A planning architecture considers time as one of its most important factors in the creation of a functional planning group.

Effective group synthesis does not happen by accident. It results from an investment of time that a planner devotes to building a planning group according to a design.

Building a Planning Group

Once a planner has conceptualized a design to planning, he must turn vision into reality and physically organize a planning group. Ideally, he assembles the *right* combinations of people and resources to maximize individual contributions and facilitate open dialogue, learning, and synthesis as the group conducts planning. Obtaining the *right* people, delineating their roles and responsibilities, and establishing an appropriate location to plan are three significant factors that contribute to building a planning group.

⁴⁸ Commanders will more than likely have a concept for the way they intend to approach problem-solving. For example, MG Chiarelli, the commander of 1st Cavalry Division (1CD), focused his planners onto urban development projects rather than combat offensives to quell the 2004 unrest in Sadr City. 1CD succeeded in winning the peace by emplacing sewers and picking-up trash rather than kicking-in doors. Refer to Peter W. Chiarelli and Patrick R. Michaelis, "Winning the Peace: The Requirement for Full-Spectrum Operations," *Military Review* (Jul-Aug 2005).

The construction of a planning group must initially focus on obtaining the necessary skill-sets needed to enrich learning. SMEs can greatly empower the productivity of a planning group by providing expertise in specific subjects. Examples of SMEs include: religion experts, cultural anthropologists, geographers, economists, political scientists, and non-governmental organization experience. SMEs function as an economy of force for a planning group because without them, the members of a planning group have to consume their time doing research instead of planning. When SMEs are not available, planners assign the responsibility of researching to existing group members. This delegation of research responsibility is less desirable than using SMEs.

Delegating responsibility is an essential practice that impacts upon the effectiveness of a planning group. Planners usually have to organize groups, boards, and cells to address various aspects of the complex situation. These subordinate configurations may exist temporarily or for the duration of a planning effort. They vary in size based upon the particular characteristics of their focus and the ability of the lead planner to gainfully control their proceedings. Peter F. Drucker expands upon building groups to fit the need of decision-making in his book *The Effective Executive*:

Knowledge work is not defined by quantity. Neither is knowledge work defined by its costs. Knowledge work is defined by results. And for these, the size of the group and magnitude of the managerial job are not even symptoms. Having many people working in market research may endow the results with the increment of insight, imagination, and quality that gives a company the potential of rapid growth and success. If so, two hundred men are cheap.⁴⁹

Drucker warns that decision makers should be sure to closely analyze the configurations of these groups so that they remain manageable. By delegating roles and responsibilities to focus members, a planner empowers more people to contribute to a problem-solving process.

⁴⁹ Drucker, *Effective Executive*, 7.

Ideally, a planner configures a planning group so that its members collaborate to elevate their collective awareness, understanding, and learning. Increased geographic separation of planners has required more collaboration to occur through virtual space. New technologies such as DARPA's Command Post of the Future (CPOF) enable planning groups to collaborate from different locations. But, assets like CPOF are currently in short supply and planners must closely manage their utilization.

Finally, the infrastructure used to conduct planning is another critical factor that a planner considers when building a planning group. The location, size, and capabilities of the infrastructure all impact upon the nature of the collaboration that emerges during planning. Determining the best location depends upon factors such as accessibility of the planning group to the operators they support, operations security measures (OPSEC), and safety from enemy attacks. The size of the group depends upon the dynamics of the problem. Large groups usually take longer to plan, but provide more depth, perspectives, and buy-in. Smaller groups tend to facilitate difficult decisions in a shorter amount of time, but risk missing the breadth and depth of knowledge that larger groups can provide. The characteristics of planning facilities may dictate the size of group that a planner can assemble. Ultimately, a planner may have to sequester the help of a command to obtain the *right* place to plan.

Building a planning group that mirrors the vision of a planner's design requires authority, resources, a great deal of energy, and a *plan-to-plan*.⁵⁰ A well-designed and organized architecture establishes the foundation for effective problem-solving.

⁵⁰ Chris Rogers illustrates the important role *planning-to-plan* plays in Army units. "Organizing the planning effort and ensuring that the Operational Planning Group (OPG) is adequately focused on the right problem with the right mix of people" is essential to *planning-to-plan*. Extracted from the *Planning-to-Plan* (P2P) questionnaire, 11 November 2005.

Marshalling the Conduct of Planning

In order to ensure that planning resources enable relevant and timely decision-making products, a planner has to closely marshal the conduct of a planning effort. “The trick is to make planning relevant to the problem” while determining a way to “cycle through planning fast enough to outrace the situation so that the answer addresses the problem as it exists when the turn of an actionable planning product is done.”⁵¹ Five processes help improve group planning: orientation, employment, assessment, adaptation, and transition. A planner initiates group decision-making by *orienting* the members to the expectations, scope, and methodology of a planning effort. Once focused, the group *employs* its resources and negotiates the steps of a decision-making model such as the MDMP. A planner *assesses* and *adapts* the group’s approach throughout the process to meet the dynamics of the planning environment. Once the decision-making requirements of the previous planning effort have either been met or are no longer necessary, the group *transitions*.

Orientation is a critical step towards achieving synthesis in a planning group.⁵² It starts when a planner assembles his group for the first time and focuses them onto the purpose of the planning effort. He outlines decision-making requirements and explains how he intends to pursue planning in a group environment. The planner essentially communicates his concept of a planning architecture. Since many of the members may be new to the planning group, orientation serves as a forum for introductions and delineations of duties and responsibilities. Orientation subsequently initiates the estimate process in which planning group members conduct research according to the objectives of the decision-making effort. Orientation brings a planning group together and focuses their energies onto common goals and objectives prior to problem-solving.

⁵¹ M. Scott Weaver at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 15 February 2006.

⁵² NATO leaders understand the importance of orientation and have included it as the second of the NATO five-step decision-making process called the Operational Planning Process (OPP). See Appendix One, Review of Doctrine.

After planning group members arrive at a general understanding of the planning focus, they *employ* their planning assets and engage the steps of a decision-making framework. Frameworks like the MDMP guide the activities of the group as it works to solve a problem. After defining a problem and publishing planning tasks, purposes, and deadlines, a planner gives his planning group the time and space to work. His temperament, style of leadership, and relationship with group members ultimately define his approach to supervision, but the method in which a planner employs his planning group depends upon his planning architecture.

A planner should continually *assess* his planning group as they negotiate the steps of a decision-making process. Assessment allows him to consider whether or not the conduct of planning is meeting the decision-making needs of the command group. A planner's commander will usually provide verbal feedback to a planning group regarding their performance. He may, for example, articulate his displeasure at a group's lack of depth used to analyze certain factors presented in a mission analysis brief. In this case, a planning group must be ready to capture the commander's feedback, collectively internalize his comments, and adapt the planning architecture accordingly. Person-to-person interactions constitute another area that demands careful attention. Poor collaboration or no dialogue can stifle the learning and synthesis of a group and adversely affect the quality of their decision-making products. Because person-to-person relations are difficult to measure, a planner must rely on his judgment to qualify what level of success the group is achieving regarding learning and synthesis. Regular contact with group members and feedback from key leaders facilitate his assessment of the group's progress.

Assessment subsequently inspires *adaptation*. A planner must be prepared to modify his planning architecture based upon recognized shifts in the dynamics of the planning environment. In some cases, a planner can involve portions of a planning group to determine how to adapt planning operations to better meet the needs of the command. Periodic after action reviews (AAR) throughout the conduct of planning serve as a conduit for consensus regarding how to approach change. However, in time sensitive or command directed circumstances, a planner may

have to modify the planning design without consulting the group. In either case, a planner should anticipate that his planning orientation will undoubtedly change several times during a planning effort. At a minimum, it will definitely change as a group transitions onto a new planning focus.

A planning group *transitions* when its focus of planning is no longer relevant and decision-making support requirements beget a new set of planning objectives. A transition may occur when a group accomplishes the decision-making needs of the command or because a situation changes requiring a new planning focus. Regardless of the reason, a planner should bring closure to the previous effort and orient his planning group onto the new planning objectives. This may demand that the planner redesign a planning architecture and reconfigure his planning resources. Dramatic changes to the architecture of an operating planning group, however, can risk the loss of planning momentum, understanding, and synthesis. A transition-plan can minimize this friction so that the group maintains momentum and synthesis.

Marshalling the progress of a planning effort requires that a planner maintain a keen sense of awareness to the dynamics of a planning environment. Change indicators are often elusive and hard to read. Therefore, a planner has to be sharp enough to know what to look for as a group conducts planning, but also flexible and humble enough to change his approach to planning when the current thrust fails to yield the necessary results.

Plan-to-Plan Techniques Exist

In a questionnaire of thirty-six experienced planners, eighty percent stated that they were familiar with the concept of *planning-to-plan* and many shared personal accounts that illustrated the benefits of incorporating *plan-to-plan* techniques. One U.S. Army planner claimed that *plan-to-plan* techniques saved his group time and ensured that his commander received the right information.⁵³ Another planner echoed the sentiment that *plan-to-plan* techniques were vital to

⁵³ Jim Hevel, extracted from the *Planning-to-Plan* (P2P) questionnaire, 9 November 2005. Lieutenant Colonel Hevel was the Chief of Plans for 1st Cavalry Division during Operation Iraqi Freedom.

saving time during decision-making processes because “there is no time available to make it up once you kick off.”⁵⁴ Other planners remarked that *planning-to-plan* enables creativity, innovation, and critical thought by incorporating more members into the discourse of planning. An overwhelming majority supported the notion that the Army planning community stands to gain from a standardized approach to planning architecture. One planner, in fact, suggested that planning design would especially help novice planners overcome their inexperience. He recommends that the Army consider adding the concept to its current planning doctrine.⁵⁵ Experienced planners generally agree that certain *plan-to-plan* techniques exist within particular planning groups that could potentially improve the productivity of other planning groups.

The Risks of Planning-to-Plan

Not all planners included in the questionnaire population agreed, however, that a standardized *plan-to-plan* model would serve any beneficial purpose. One allied officer questioned the utility of another “process about a process to operate a process.”⁵⁶ This concern misses the point of *planning-to-plan*. The synthesis that enables a group to innovate depends upon the method by which the group approaches decision-making. This includes how a planner implements *planning-to-plan* techniques to marshal the conduct of planning. Decision-making may entail the use of a traditional framework like the MDMP. But, what really matters are the dynamics which occur within the group that spark learning. Planning architecture focuses on the aspects of planning that enable synthesis and learning to occur within a group. *Planning-to-plan* is not another regimented process consisting of checklists and tasks.

⁵⁴ Matthew Eichburg, extracted from *Planning-to-Plan* (P2P) questionnaire, 11 November 2005. Major Eichburg is currently serving in the U.S. Army as a G-3 planner in V Corps.

⁵⁵ David T. Culkin, extracted from the *Planning-to-Plan* (P2P) questionnaire, 11 November 2005. Major Culkin is currently serving in the U.S. Army as Chief of Future Operations Plans for the 8th Army in Korea.

⁵⁶ Anonymous respondent, extracted from the *Planning-to-Plan* (P2P) questionnaire, 11 November 2005.

A few military planners commented that the basic decision-making frameworks like the MDMP already provide ample structure for a planning group and that many *plan-to-plan* functions proposed by the questionnaire are tasks implied to the MDMP or decision-making framework equivalents. By acknowledging that there are implied tasks to operating a planning group, the respondent validates the claim that *plan-to-plan* techniques exist and serve a role in the decision-making process. Planning staff interoperability is the issue here. Because there are so many varying approaches to planning, a standardize framework for planning architecture creates a form of common language for the individual techniques so that the entire Army planning community could benefit from those that work.

Another planner worried that the addition of a *plan-to-plan* model could stifle creativity by forcing yet another prescriptive checklist onto a planning group. Quite to the contrary, a failure to design and build a planning effort to optimize the use of available planning resources is a recipe for generating unimaginative solutions to problems. The wide variety of opinions, expertise, and depth of knowledge of a planning group is exactly what command groups need to ensure that their decisions weigh viable alternatives. A *plan-to-plan* increases the likelihood that decision makers will consider more perspectives and diminishes myopia as leaders commit to courses of action.

One planner argued against planning design because he specifically likes to “shoot from the hip” each time he plans to ensure an innovative approach. *Planning-to-plan* accounts for the fact that each approach to planning will be different every time a planner develops a planning architecture. Planning progress in a group environment depends upon *planning-to-plan* steps like orientation, employment, assessment, adaptation, and transition. The sequence of these activities is not rigid. A planner can manipulate the order of these to address the dynamics of a problem.

Lastly, another planner generalized that many field planners do not use decision-making frameworks at all. He questioned how a *plan-to-plan* model would compel these individuals to

approach planning any differently than they do now.⁵⁷ Doctrinal decision-making processes exist only as templates for problem-solving. The planning architecture is the element that applies the capabilities of a planning group to the decision-making processes to generate decision products. Its design addresses the approach a group uses for planning. This framework may be the MDMP or some other process that better suits decision-making. Beyond these parameters, the collective approach of a planning group depends upon its SOPs and command expectations.

Most of the respondents to the *plan-to-plan* questionnaire supported the concept that a standardized approach to *planning-to-plan* can help groups overcome decision-making obstructions. Colonel Kevin Benson cites one planning experience in which “every problem became a crisis” because planners did not adequately *plan-to-plan*. This was in large measure due to the fact that planners failed to synchronize people, time, and resources.⁵⁸ Planning architecture and *plan-to-plan* techniques reduce the impacts of planning friction and enable groups to learn and synthesize as they innovate solutions. The majority of planners admit that they regularly use *plan-to-plan* techniques and many have included major elements like designing, organizing, and marshalling planning into their unit SOPs. But because there is no standardized approach to planning in doctrine, the multitude of planning groups have been forced to generate their own unique SOPs. The variations of SOPs have made interoperability between planning staffs difficult. ‘Shooting from the hip’ may work well with a very small planning group, but large groups usually suffer from procedural uncertainties.

A standardized *plan-to-plan* model would, at a minimum, give planners a starting point regarding how to approach decision-making in a group environment that would be familiar to all planning organizations. Planners would only have to address deviations from the model to orient and synchronize the members of their planning staffs. Lastly, creative energies are magnified in

⁵⁷ Anonymous respondent, extracted from the *Planning-to-Plan* (P2P) questionnaire, 11 November 2005.

⁵⁸ Kevin Benson discusses what occurred during CENTCOM 1003V planning operations for Operation Iraqi Freedom. Extracted from the *Planning-to-Plan* (P2P) questionnaire, 11 November 2005.

planning groups when every member understands his role in the procedure and is familiar with the mechanisms by which he can contribute to the planning effort. A *plan-to-plan* model empowers individuals by giving each member more procedural awareness during decision-making.

By designing a planning architecture that balances decision-making requirements with planning resources, a planner establishes an underlying structure to planning that directly influences the nature of a planning effort. This structure enables a group to balance the demands of decision-making with the capabilities of its planning resources. A well conceived planning architecture promotes a higher level of understanding which is brought about by the collaboration of ideas that occurs through open dialogue. An environment characterized by open dialogue is also characterized learning. Groups that subsequently learn well usually do so because members have achieved synthesis. The next section analyzes several techniques that help planners facilitate the conduct of planning so that a group can learn and synthesize.

TECHNIQUES

There are numerous techniques that experienced planners regularly use to augment the conduct of planning in a group environment. *Configuring* is the technique through which a planner chooses how to organize his planning group in terms of size; *Orienting* focuses a planning group onto planning objectives; *Scoping* commits planning resources onto the appropriate objectives for a specified amount of time; *Storytelling* allows an audience to visualize a narrative of a situation or proposed course of action; *Mind-maps* and *storyboards* organize and depict the variables of a complex problem; *Dashboards* structure delivery of information; *Flowcharts* describe linkages between variables; *Heretics* cross-check logic prior to final decisions; *Third-party observers* ensure that decision-making products are complete, make-sense, and lead commanders to particular conclusions; *Planning timelines* synchronize planning groups; *Meetings* create forums for dialogue and help planning groups stay on-track in decision-making; *Sensing* provides a conduit to assess the progress of planning; and *transitioning* shifts planning groups onto new planning objectives.

Criteria

Four criteria were used to analyze each of the following *plan-to-plan* techniques: *focus*, *understanding*, *connectedness*, and *adaptation*. These criteria impact the level of synthesis a group achieves as well as the relevance it maintains according to the dynamics of the planning environment.

Focus characterizes good planning. By aligning the members of a planning group onto planning goals and objectives, a planner empowers its members to contribute more to a decision-making process. Focus directs a group onto the envisioned planning end-state and intermediate planning objectives. While the intent of focus is to provide direction to a planning group, it should not be so narrow as to stifle a group's initiative. A planner must allow a certain level of flexibility as he defines "the box" in which he expects a planning group to operate. For this

reason, focus should adjust as a situation matures as well as focus a planning team at the onset of a problem-solving process.

Understanding involves an awareness of self and situation. Effective planning groups use a holistic approach to understand the nature of an environment in which an organization operates. This holistic view includes analyzing how the organization, itself, impacts the environment merely by its presence. Holistic analysis requires collaborative learning and synthesis.⁵⁹ This perspective is sometimes referred to as the ‘big picture.’ While understanding broadens awareness to the characteristics of an operating environment, it also provides conceptual reference points for group members regarding the conduct of planning. In terms of procedural awareness, planning group members need to understand what logic is driving a planning effort. Moreover, planning group members have to understand their roles and responsibilities as well as decision-making deadlines and expectations. Understanding is an integral characteristic of effective decision-making which forms a baseline of uniform awareness and connectedness.

Connectedness concerns those entities that synthesize both the internal and external components of a planning group. It addresses the employment of individuals, the coordination of groups, and the relationships between organizational components that impact the planning effort. Connectedness includes: the management of a group that initiates, prioritizes, and tracks work, leadership fundamentals that motivate and monitor the interpersonal dynamics of the team, the synchronization of assets so that the right resource comes to bear at the right time, and communication mechanisms which promote information sharing and mutual understanding. Connectedness informs a group’s learning and serves as a conduit for reflection and inquiry.⁶⁰

⁵⁹ Shimon Naveh at the Headquarters of the 35th Infantry Division, Fort Leavenworth, Kansas, interview by author, 19 January 2006.

⁶⁰ Bill O’Brien of Hanover Insurance invigorated the performance of his company employees when he extolled the importance of a critical approach to teamwork. O’Brien captured this concept when he said, “the eye cannot see itself.” Senge, *The Fifth Discipline*, 202.

The relevance of a planning group's decision-making outputs correlates with the group's ability to *adapt* to the dynamics of a situation. A group that demonstrates superior skill in sensing, recognizing, and responding to changes in an operating environment has a greater ability to adapt. Perhaps the greatest obstruction to this learning process involves recognizing that change has actually occurred. A planning group relies upon feedback mechanisms to sense shifts in an environment. Once a group recognizes change, its members can identify better ways to relate their planning efforts to the context of a problem. A planning group modifies its *plan-to-plan* based upon its assessment of the situation, the perceived effectiveness of current the planning architecture, and feedback from the command group concerning the decision-making performance of the group. Adaptation, like focus, understanding and connectedness, is an essential element that contributes to the synthesis of a planning group and impacts upon the relevance of the group's decision-making outputs.

All of the following *plan-to-plan* techniques address at least one of the four criteria of *focus, understanding, connectedness, and adaptation*.

Techniques that Augment Planning Operations

Configuring

A planner must select the type of group configuration that best augments learning and synthesis during planning. Configurations include: one person, small groups, large groups, and sub-groups. Decisions can be made effectively by one person when that person has all the necessary and relevant information. In military organizations one-person decisions are accompanied with the authority and responsibility for the outcomes of the decision. For example, a commander has the responsibility to ensure his unit performs within the parameters of his expectations. One-person decisions are also timely and can benefit an organization's operations

when additional perspectives are not available. When time is not so constrained, a commander can solicit the help of a small group to obtain a wider breadth of insights.

Small groups consist of ten or fewer people and provide a planner with a manageable number of people who can engage in dialogue. Small groups offer an environment in which participants can achieve consensus. Conversely, large groups can bring to bear more perspectives into problem-solving which helps when problem-solving requires a wide variety of inputs. They also tend to promote commitment from a greater number of members; however, large groups can be unwieldy and difficult to control. Discussions often devolve into side-bar conversations and the group loses focus as to the over-arching objective of the planner. Achieving consensus is difficult with large groups. Often, a planner must conduct a vote to reach a decision.

Sub-group decision-making stands as an alternative that combines the benefits of small and large groups. Large groups elect representatives who have sufficient expertise to contribute to a small group dialogue. These representatives can reach-back into their represented group members for additional depth of knowledge when necessary. Like small groups, sub groups can engage in active dialogue in which each member can voice a perspective.⁶¹ The configuration of a planning group affects the group's orientation, connectedness, and understanding. It also impacts how flexibly a group can adapt to emergent changes. Configuration, therefore, is instrumental to the learning and synthesis of a planning group.

Orienting

Orientating focuses a planning group onto the desired planning goals and objectives. Orientation clarifies roles and responsibilities, lists requirements and expectations for work, emphasizes deadlines, discusses any changes that have been made since the conclusion of the previous planning effort, and communicates intermediate steps that must occur. A planner should

⁶¹ Peter R. Scholtes, Brian L. Joiner, and Barbara J. Streibel, *The Team Handbook: Third Edition* (Madison, Wisconsin: Oriel Inc., 2003), p. 3-24 to 3-29.

orient his entire planning group at the onset of a planning effort and reorient them as required after transitions. Orienting allows a group to maintain effectiveness during periods of adaptation and promotes cross-staff awareness. It augments collaboration and connectedness by providing each member with an understanding as to the conduct of planning operations. Orienting is a fundamental *plan-to-plan* technique that keeps a planning group on-track with the underlying structure of the decision-making effort.

Scoping

Scoping is a technique in which planners commit the *right* planning resources onto the *right* planning objectives. Scoping focuses the efforts of a group onto what the lead planner needs at a particular moment in the planning process. It involves a *plan-to-plan* that relates resources to decision-making requirements. These requirements may include events such as defining the problem, conducting mission analysis, or wargaming. Scoping defines what must be done at a particular juncture in the decision-making process and then meshes those needs with the capabilities of the planning group. It orients a group onto the goals and objectives of current planning operations and connects it in such a manner that each member understands the scope and timeframe for the requirements of decision-making.

Consider the following example in which a planning group works to define a problem at the onset of a decision-making effort: A planner configures a group to define a problem. He gathers the group together and orients them to the intermediate planning objective of defining the problem. He communicates his expectations, discusses how he envisions consensus will occur, and discusses the suspense at which time the group must have accomplished this task. He may also discuss how the group will employ analytic frameworks such as PEMSII (political, economic, military, social, intelligence, and infrastructure) to augment the planning task. When a planner assigns specific members to research topic areas within PEMSII, he is scoping his planning resources onto planning objectives. With sufficient attention to design, scoping can

serve as an economy of force technique for the planning resources of a group. It also enables others to better understand a planner's prioritization of resources during the course of planning operations.

Storytelling

Storytelling uses narrations to help planning group members understand the nature of a complex situation. In the late 1990s, the leaders at 3M recognized that their method of presenting business plans did not promote a cohesive understanding to its intended audience. The makers of Post-it Notes, Scotch and Masking tapes, and Scotchgard fabric protector had been using bullet points such as, "increase sales by 10%, reduce distribution costs by 5%, [and] develop a synergistic vision for traditional products" to communicate complicated plans. These bullet points proved too generic and often left critical relationships and assumption unspecified. The result was inefficiencies with substantial cost expenditures to the company.

One 3M executive, Gordon Shaw, realized that there was a more coherent way to present business plans to inspire deep thought and commitment through telling strategic stories. Shaw hypothesized that narratives might improve the understanding of complex matters. Language researchers had recently determined that the recall-abilities of high school students increased threefold when American history texts were rewritten in narrative form. The texts enabled the students to "imagine a course of action, imagine its effects on others, and decide whether or not to do it."⁶² Shaw's hunch paid off and won the praise and commitment of the top management. One particular narrative resulted in a very profitable joint venture with the German chemical giant, Hoechst. While storytelling may require more time, narratives benefit the focus, connectedness, understanding, and adaptability of planning groups.

⁶² Gordon Shaw, Robert Brown, and Philip Bromiley, "Strategic Stories: How 3M is Rewriting Business Planning," *Harvard Business Review on Advances in Strategy* (Boston, Massachusetts: Harvard Business School Press, 2002), 51-69.

Mind-maps and Storyboards

Mind-mapping and storyboarding are the techniques of graphically displaying information to promote understanding and critical thought. These techniques capitalize on the adage that a picture paints a thousand words.⁶³ Many concepts are too complicated to deconstruct through words in an efficient amount of time. A narrative that describes the relationships between variables that exist in a complex environment can become so long-winded that they infringe upon the timeliness of decisions. Mind-maps and storyboards are powerful techniques that allow planners to convey a great deal of information to other people in a comparatively short amount of time. They function to spatially relate variables, sequence activities over time, and graphically represent a train of logic. This ultimately inspires greater awareness so the elements of the problem. In a complex environment, storyboards are a useful technique that organizes complexity so that planners can see the forest *and* the trees.⁶⁴

Mind-maps and storyboards depict the interrelations of activities and decisions. A mind-map helps organize and plan for the disparate activities associated with a complex problem such as all the considerations involved with conducting permanent change of station (PCS) move in the military. By using a mind-map, a planner can group related activities and decisions together (see Figure 2, Mind-map of a PCS Move). This allows him to spatially relate the variables found in a complex problem. It also provides him with an opportunity to ensure that he has considered all the possible variables that could prove relevant. Once satisfied that he has accounted for all of the possible activities and decisions, he can reflect on how the variables relate to one another in

⁶³ Motion picture directors started using storyboards in Hollywood as planning tools for upcoming shoots. Storyboards remain the primary method by which production designers organize and communicate logical sequences for movies. The film industry recognizes three components of storyboards that help production designers and storyboard artists tell a story: color, line, and texture. While texture may not directly apply to military planning, colors and lines do. Planners can create storyboards for a variety of functions, but the methods used to sketch diagrams should fall in-line with existing parameters established by Army doctrine. For instance, the color blue relates to a friendly graphic while red usually indicates enemy; reference FM 5-0, *Army Planning*, 1-16.

⁶⁴ Senge, *Fifth Discipline*, 127.

terms of time. For instance, the date for household-goods delivery depends upon the decision to live on or off the Post.

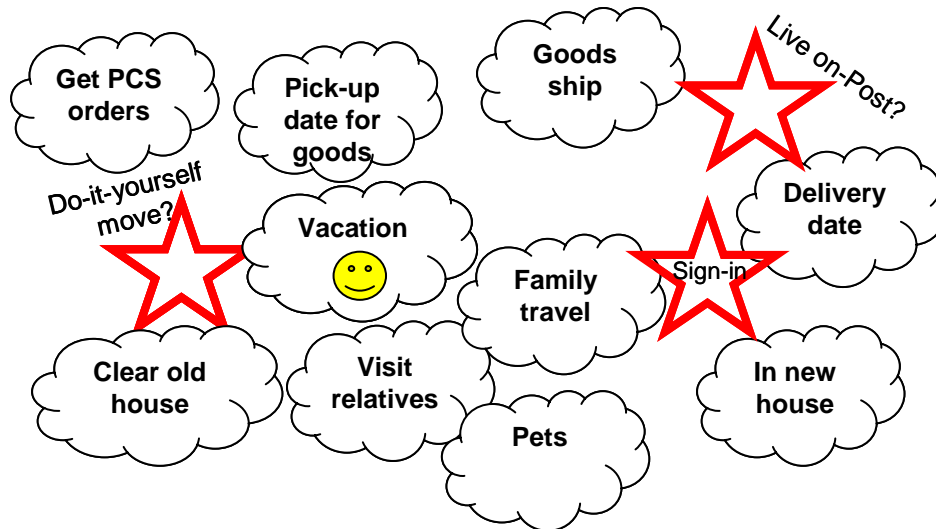


Figure 2 – Mind-map of a PCS Move⁶⁵

By spatially grouping decisions and activities, a logical pattern emerges that can then be storyboarded. Storyboards illustrate a flow of activities, events, and decisions (see Figure 3, Storyboard of a PCS Move).

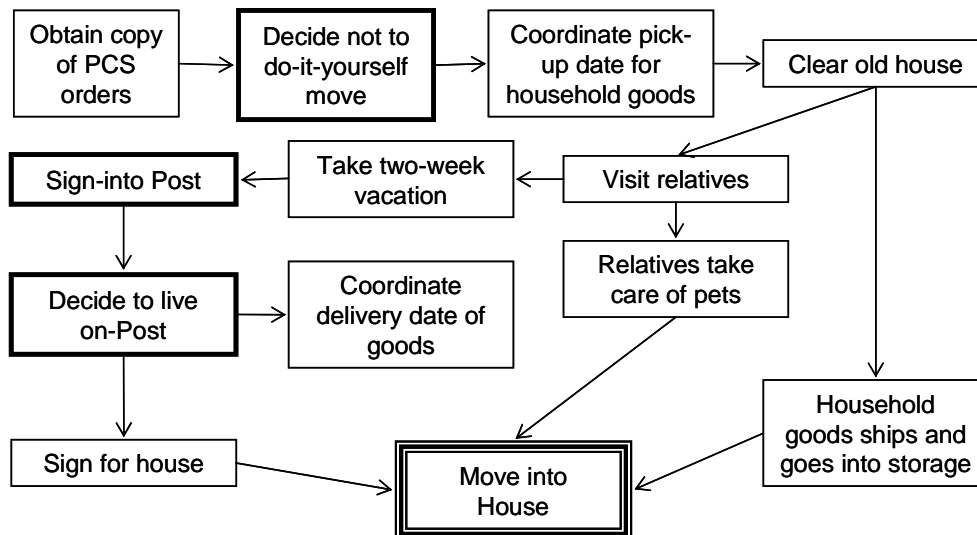


Figure 3 - Storyboard of a PCS Move

⁶⁵ John Garrett, "Plan to Plan Template," Presentation at the School of Advanced Military Studies, Fort Leavenworth, Kansas, 31 October 2005, inspired by slide 9.

The technique of storyboarding helps a planner to visualize a sequence of anticipated events and promotes more effective communication regarding issues encountered in a complex problem.⁶⁶ Utilized with mind-maps, storyboards provide a quick means to focus a planning group onto variables involved in a complex problem and subsequently promotes improved connectedness and understanding. A group can also use these techniques to help members adapt to changes that modify the flow of activities and decisions.⁶⁷

Organizing Information with Dashboards

A dashboard is an intellectual construct that provides an intuitive way to visualize a complex problem. Dashboards establish a personalized format for information delivery that reflects a commander's preference for absorbing information. Web-pages are good information platforms that planners can use to create a dashboard. Salient facets of information can be hyperlinked on a master web-page. This gives decision-makers a holistic perspective of a situation with the capability to 'drill-down' into particular subject areas by clicking-onto hyper-linked icons. One tremendous advantage of a web-page based dashboard is that an administrator can quickly modify and update information as the dynamics of a problem change. This helps ensure that a command group and planners have access to the most up-to-date information available. Web-pages can also be accessed over the Internet so that geographically separated planning group members can collaborate more effectively. The technique of using dashboards facilitates efficient information comprehension and diminishes time-lags associated with research.

⁶⁶ John Garrett at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 29 October 2005.

⁶⁷ The Army planning community has been reviewing ways to better frame complex problems. Many of these approaches rely upon the use of mind-maps and storyboards to capture the dynamics of operating environments. For example, planners conducting an Operational Net Assessment (ONA) regularly use these techniques to map nodes identified in their system of systems analysis (SoSA). Refer to JWFC Doctrine Pam 4, *Doctrinal Implications of Operational Net Assessment (ONA)*, United States Joint Forces Command, 24 February 2004, 11.

In doing so, dashboards enable a group to focus, connect, understand, and adapt during planning operations.⁶⁸

Communicating with Flowcharts

Flowcharts depict the links between variables such as people, resources, activities, and events. By understanding the links between the variables in a complex environment, a planning group can appreciate the relationships that exist within the system in which they operate. The type of flowchart a planner selects depends upon the message he wishes to convey to his audience. There are two formats of flowcharts: outline and tabular. Outline provides extensive detail in which a planner can identify responsibilities and weak links where his involvement may be required. Tabular offers a more visual approach. The two common tabular methods are the Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT).

Flowcharts are visual summaries of activity and event sequences. Some events depend upon activities which then subsequently initiate other activities. Singular effort flowcharts capture this dynamic (see Figure 4, Singular Effort Flowchart).



Figure 4 - Singular Effort Flowchart

Other events depend upon the inputs of multiple activities and are depicted by joint flowcharts (see Figure 5, Joint Effort Flowchart).

⁶⁸ Ken Szmed, Commander, U.S. Navy at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 21 February 2006. Chief of Naval Operations, Admiral Michael G. Mullen and many subordinate Navy commands use dashboard constructs to organize information.

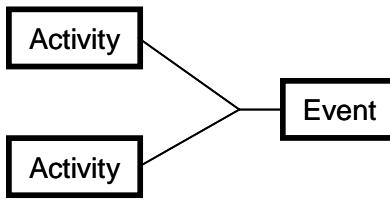


Figure 5 - Joint Effort Flowchart

Lastly, some events happen only after some external activity occurs first. Dependent effort flowcharts can help a planner illustrate this relationship (see Figure 6, Dependent Effort Flowchart).⁶⁹

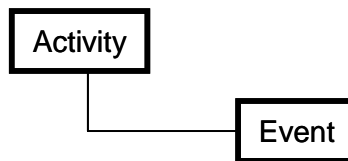


Figure 6 - Dependent Effort Flowchart

Two other prevalent types of flowcharts include vertical flowcharts and horizontal network diagrams. Vertical flowcharts can be created from outlines of events and activities. Consider the following list of the seventeen steps of Mission Analysis extracted from the Army's MDMP:

1. Analyze higher order
2. Intelligence Preparation of the Battlefield (IPB)
3. Identify specified, implied, and essential tasks
4. Review available assets
5. Determine constraints
6. Identify critical facts and assumptions
7. Conduct risk assessment
8. Determine Commander's critical information requirements (CCIR)
9. Prepare initial reconnaissance annex
10. Plan use of available time
11. Write a restated mission
12. Conduct mission analysis briefing
13. Approval of restated mission
14. Commander's intent
15. Commander's guidance
16. Issue warning order

⁶⁹ Michael C. Thomsett, *The Little Black Book of Project Management*, Second edition (New York: American Management Association, 2002), 104.

17. Review facts and assumptions

When translated into a vertical flowchart, a planner can show the sequence in which a group could execute each step (see Figure 7, Vertical Flowchart of Mission Analysis).

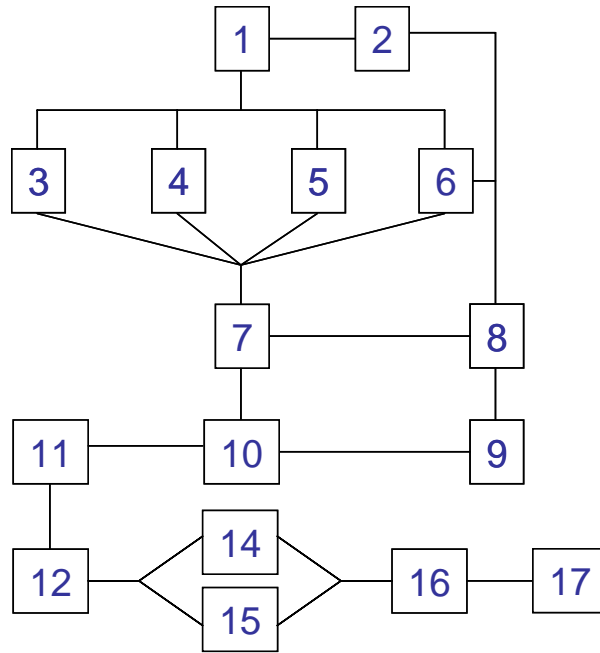


Figure 7 - Vertical Flowchart of Mission Analysis

The chart shows how steps one and two actually occur at the same time and that step seven depends upon the completion of steps three through six. A vertical flowchart can help a group understand the reality as to how activities and events occur with the use of a vertical flowchart that might not be so readily apparent in outline form. A nesting diagram, also called a task and purpose tree, uses the vertical flowchart format to graphically depict the horizontal and vertical relationships between units and superimposes each unit's task and purpose. This provides an easily recognizable method to understand the command relationships between organizations and what each is doing to contribute to an overall mission.

Horizontal network diagrams provide another format which helps planners include time factors and overlapping activities into an illustration (see Figure 8, Horizontal Flowchart). By arranging events and activities according to time, a planner can observe the flow of activities and

events.⁷⁰ Flowcharts are powerful tools that help orient and connect a planning group so that they can understand and adapt.

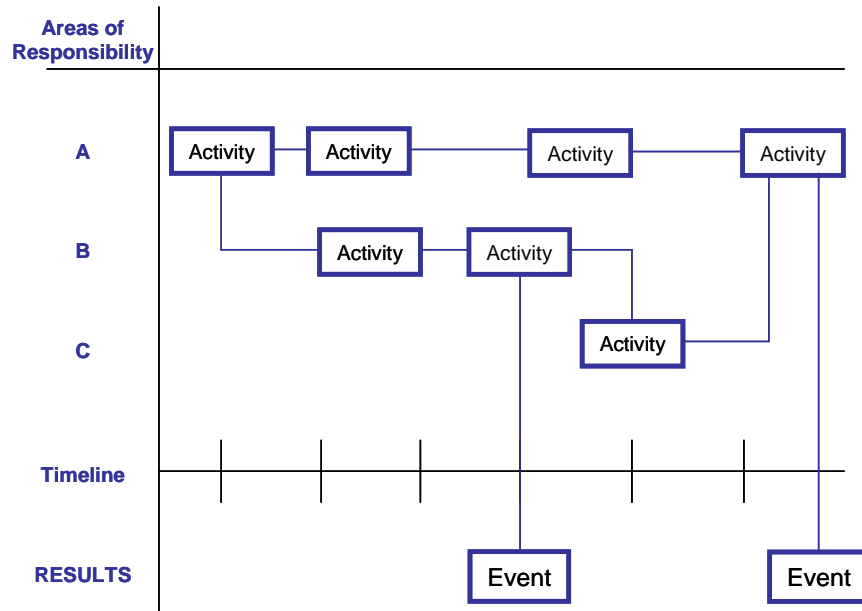


Figure 8 - Horizontal Flowchart⁷¹

Employing a Heretic

Sometimes groups can connect so well that they lapse into group-think. In order to counter this emergence, a planner can assign someone as a heretic. A talented heretic is a contrarian who questions the arguments being presented by the members of a planning group. By deconstructing the logic of what people say, a heretic unhinges weak theories and ensures that a group considers other perspectives and possibilities before committing to a particular decision. Also known as a 'devil's advocate,' a heretic causes planning group members to think through the validity of their arguments prior to flooring them before an assembled planning group. This heretical approach can subsequently lead others to think more critically and listen more attentively. A heretic can shock a group out of the acquiescing lull of group-think and compel

⁷⁰ Ibid, 85-119.

⁷¹ Thomsett, *Project Management Black Book*, 111.

members to engage each other in debate. Debate induces learning which improves the quality of a group's decisions. A good heretic, in this sense, benefits connectedness and increases a group's level of understanding.⁷²

Employing Third-Party Observers

Third-party observers provide a fresh look at a group's conduct of planning from an individual who has not participated in the development of a group's logic. Because third-party observers have not been involved in the discourse that has generated decision-making outputs, they can provide objective assessments concerning a group's logic and decision-making product relevance. A good observer functions like a heretic who looks for failure points in the logic of a group. They are particularly helpful for briefing rehearsals conducted prior to final delivery to a commander. Third-party observers check that briefing materials make sense and lead to a particular set of conclusions that reflect the planning group's intent. For this reason, third-party observers must be capable of providing adequate and useful feedback. Rehearsing in front of a third-party observer improves the understanding of a planning group and its connectedness with a command group.

Maintaining a Planning Timeline

Planning groups habitually operate in a time constrained environment and must marshal their progress according to the decision-making deadlines of their command group. Commanders usually make decisions well in advance of action. So, a planner creates a planning timeline to marshal the conduct of a planning group according to the operational timeline driven by a commander and a situation. A commander will have deadlines for the decision-making outputs of a planning group. For example, a brigade commander who decides to attack a stronghold will

⁷² James J. Schneider, Ph.D. at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 3 March 2006.

make this decision at least forty-eight hours in advance of the action so that his subordinates can plan, prepare, and rehearse for battle. In this case, the brigade's planning timeline would reflect a decision point forty-eight hours in advance of the event. To ensure that planning efforts are relevant and timely with respect to decision-making requirement, a planner uses an operational timeline to form the basis of his planning timeline. For example, a planner can 'backwards-plan' from a decision point to support the planning needs of the commander. He can then 'forward-plan' beyond that same decision point in anticipation of future planning operations. A planning timeline, in this regard, proves instrumental to focusing a planning group. Furthermore, it promotes collective awareness to the time constraints influencing planning activities.

Gantt charts provide one method of overlaying planning and operational timelines. Henry Gantt was an Army Bureau of Ordnance engineer during World War I who found a way to improve control over the production of munitions. By breaking activities into phases, he could oversee processes more easily. So, he created a graph with phases on the Y axis and time on the X axis. The chart enables others to quickly observe where a planning group stands in the decision-making process and where delays have occurred so that planners can account for and better manage time-sequencing differentials (see Figure 9, Gantt Chart, Bar Format).⁷³

⁷³ Thomsett, *Project Management Black Book*, 71-7.

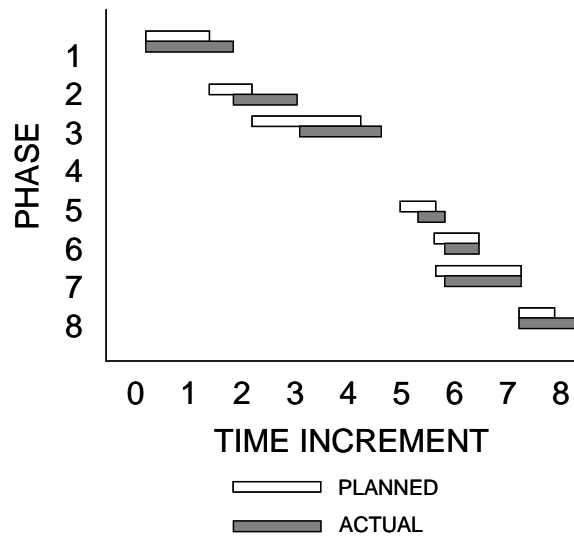


Figure 9 - Gantt Chart (Bar Form)

Planning timelines impact the focus, connectedness, understanding, and adaptation of a planning group. Deadlines focus the time at which decision-making products must be ready for a command group. Timelines enable connectedness by establishing a common level of understanding as to when planning objectives must be accomplished. Lastly, timelines become instrumental to the speed in which a group adapts to changes. Because time is the one constant that remains universal regardless of the level of chaos in an operating environment, a planner uses it as one of the most critical factors as he designs his planning architecture.

Preprogrammed Meetings

Regularly scheduled, pre-programmed meetings are essential communication tools that promote information cross-leveling between the internal and external components of a decision-making group. If carefully managed, meetings serve as useful mechanisms to empower the focus, connectedness, understanding, and adaptability. Meetings provide a planner with a method to control large and unwieldy planning groups. One seasoned planner described how he used meetings to maintain control over the soldiers and personnel attached to his planning group. The

more attachments he gained, the more meetings he would hold to prevent them from “drifting” and not contributing to the planning effort.⁷⁴

Preparation and purpose are essential components of meeting effectiveness. A planner might begin a meeting by stating, “This meeting will result in a decision in which our planning group will recommend one of three courses of action to the Commander.” The planner should communicate his expectations for how the group will meet deadlines and achieve planning objectives. In particular, he identifies what interaction methods the group will employ to facilitate learning and derive solutions. There are three primary methods for achieving consensus within a planning group. The ‘round robin’ technique enables every person to contribute to a discussion. The ‘popcorn’ technique involves a group discussion in which people can randomly call-out their ideas at any time. ‘Silent writing’ is the third technique in which people write their ideas onto sticky-notes which are then posted onto a whiteboard for analysis. A planning group can further synthesize by appointing a meeting facilitator, a timekeeper, and a scribe to record the dialogue.⁷⁵

Ad-hoc Meetings

A planner conducts ad hoc meetings as required by the dynamics of the planning situation. A planning group should expect to hold ad-hoc meetings during the course of a planning effort for two reasons: the first reason is to cross-level information within the planning group. This helps them address changes, update and collaborate, or shift their approach or the underlying planning structure; the second reason is to engage key leaders who may visit a planning group location. Chance meetings with key leaders provide a forum for planners to pull information and insight from the people in important leadership roles. ‘Drive-by’ visits provide a

⁷⁴ Jeffrey Ingram at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 16 September 2005. Colonel Ingram is better known for the heroic attack to seize Baghdad with his tank battalion in support of the 101st Airborne Division during Operation Iraqi Freedom (OIF).

⁷⁵ Scholtes, Joiner, and Streibel, *Team Handbook*, 3-1 to 3-14.

substantial opportunity for the planning group to sequester guidance and answers to specific questions regarding their decision-making focus. A seasoned planner anticipates visits from senior leaders and maintains an information briefing that he can deliver upon request. This briefing follows a standard briefing template. Ad hoc meetings, like preprogrammed meetings greatly enhance the focus, connectedness, understanding, and adaptation of a planning group.

Sensing

The continual changes associated with a dynamic planning environment require that a planner monitor and assess the progress of a planning group. A planner can sense informally by regularly engaging the members of his planning group to identify whether or not they understand the focus and their role in planning operations. He can also sense in a more formal manner. A planner can hold an observations meeting at various junctures in a decision-making process. A planning group can take a short amount of time to collectively assess their productivity and performance during a planning effort. This formal assessment ensures that planning group members have a forum to constructively criticize the approach of the planning architecture. It also serves as a substantial feedback mechanism so that senior planners can adapt the direction of the group to refine their decision-making processes.

Professor Ikujiro Nonaka describes how several Japanese companies like Honda, Canon, Matsushita, and Sharp improved their productivity by learning from their employees. “Managers at these companies recognize that creating new knowledge is not simply a matter of mechanistically ‘processing’ objective information. Rather it depends on tapping the tacit and often highly subjective insights, intuitions, and ideals of employees.”⁷⁶ Sensing is a technique that enhances the focus, connectedness, understanding, and adaptation of a planning group. Open

⁷⁶ Ikujiro Nonaka, “The Knowledge Creating Company,” *Harvard Business Review on Knowledge Management* (Boston, Massachusetts: Harvard Business School Press, 1998), 21-2. Professor Nonaka is the founding dean of the Graduate School of Knowledge Science at the Japan Advanced Institute of Science and Technology and a professor and former director of the Institute of Innovation and Research at Hitotsubashi University. He is also the senior editor of *Organization Science*.

and honest assessment builds confidence, team unity, and trust within a planning group and planners who invest the time in obtaining feedback during the course of a decision-making effort can increase the learning, synthesis, and performance of a planning group.

Transitioning

A planning group transitions when the current focus of planning is no longer relevant and decision-making needs demand a shift onto new planning objectives. This is a risky juncture for a planning group because its members risk losing momentum, focus, and connectedness. Transitioning begins once a planner recognizes that his planning group has either satisfied current decision-making requirements or has encountered changes that demand a new orientation. He immediately conceptualizes a new planning architecture. With a mental picture of a modified planning design, he ceases work on the current planning effort and orients his planning group onto new planning objectives. By bringing closure to a former planning effort before refocusing onto new planning objectives, a planner minimizes adverse effects associated with change. Transitioning enables a group to adapt more fluidly to dynamic shifts in the planning environment and maintain focus on the decision-making needs of a command group.

Conclusion

This section presented several *plan-to-plan* techniques that seasoned planners regularly employ to enhance the performance of planning groups. Collectively, these techniques improve a group's focus, connectedness, understanding, and ability to adapt. While awareness to the techniques is an important step forward for novice planners, the degree to which any technique succeeds ultimately depends upon the context in which it is used. In this regard, having a model that illustrates appropriate points when a planner can apply these techniques can significantly help novice planners function more like seasoned planners. The next section introduces a *plan-to-plan* model that depicts the underlying structure of a decision-making effort, otherwise known

as a group's planning architecture. The model captures the flow of activity that exists within an underlying structure of a planning effort and identifies periods in which a planner can implement particular *plan-to-plan* techniques to augment synthesis.

A MODEL FOR *PLANNING-TO-PLAN*

Previous sections introduced a framework of language common to planning, developed an understanding of the mechanics of *planning-to-plan*, and created an awareness of the techniques available to facilitate planning. A model emerges from this foundation that provides a visualization of planning as a system within a system. It shows the underlying structure to planning that enables a group to synthesize and learn as its members engage a decision-making framework (see Figure 10, The *Plan-to-Plan* Model).

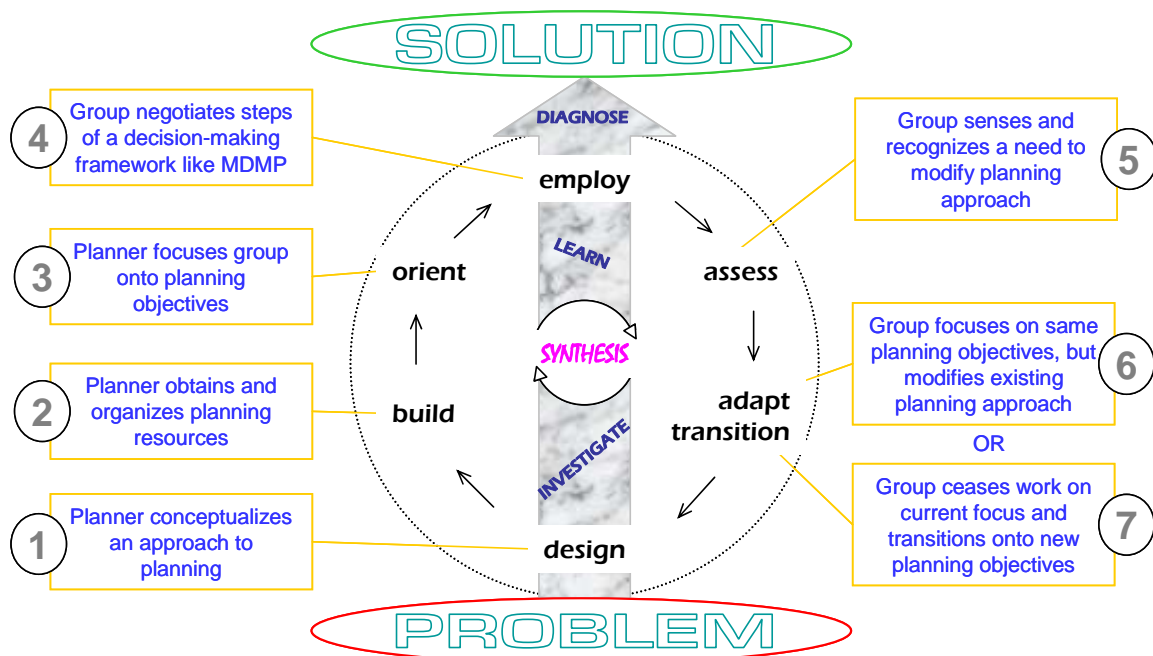


Figure 10 – The *Plan-to-Plan* Model

The underlying structure to planning creates a current of forward progress for a planning group during planning by balancing planning resources with the decision-making needs of a command.

The Sub-processes of Planning Architecture

Effective planning architectures that enable synthesis and learning consist of seven sub-processes: design, build, orient, employ, assess, adapt, and transition.

Design. The design serves as a blueprint for the underlying structure of planning in which a planner envisions how to best meet the decision-making needs of a command with resources available to plan. A planner forecasts requirements based upon anticipated events then determines the means necessary to achieve those requirements within the capabilities of a planning group.⁷⁷ His goal is to create the conditions for a group to synthesize and learn so that they derive innovative solutions to the complex problems they face. Design requires a period of reflection so that a planner can gain perspective, establish planning objectives, and consider the factors of the situation that will affect the group as they conduct planning. While this design will most assuredly change once actual planning operations begin, it establishes a base-line precedence to coherently focus and connect the resources of a planning group.

Build. After a planner conceptualizes a design for a planning effort, he has to physically gather and organize planning resources. He strives to assemble the *right* combinations of people and resources to meet the decision-making needs of a command. He seeks to configure people in such a manner so that they engage each other in open dialogue and learn. He establishes roles, assigns responsibilities, and delegates tasks to group members so that each person contributes to the overall performance of the group. He considers the location in which the conduct of planning will take place. If the members of a planning group will be geographically dispersed, a planner mobilizes technological resources to enable collaboration. With the advent of virtual space technologies, a group can synthesize even when separated over long distances. The planner must also organize feedback mechanisms so that his group has the ability to sense when change is occurring in a given situation.

⁷⁷ M. Scott Weaver, "How Many Feathers for Your War Bonnet? A Groundwork for Distributing the Planning Function in Objective Force Units of Employment," School of Advanced Military Studies Monograph (Fort Leavenworth, Kansas: United States Army Command and General Staff College, AY 01-02), 19. Lieutenant Colonel Weaver offers a contrasting view of the mechanics of planning and states that there are five interrelated elements that define the planning function: visualizing, anticipating, forecasting, sequencing, and adjusting.

Orient. Once the members of a planning group have assembled, a planner orients them onto planning objectives and method by which the group will employ its resources to plan. He elaborates on the techniques that the group will employ and his concept of scoping which commits certain planning resources onto certain planning objectives. The orientation of a group establishes awareness to the requirements of decision-making such as what the command group expects the planning group to produce in terms of decision-making products, deadlines that impact the conduct of planning, and any other important pieces of information that affect the planning situation. By orienting a group to the *plan-to-plan*, each member of a group should understand what is going on and how he can contribute to the group's overall accomplishment of its planning mission.

Employ. After a planner has oriented planning group members, he employs them according to the steps of a decision-making model like the MDMP. The planner manages the effort according to a planning timeline to ensure that relevant decision-support products are available to the command group when they need them. The amount of supervision he exudes depends upon the dynamics of the planning environment and how well the group is synthesizing, learning, and collaborating. He specifically wants to foster an environment that caters to creativity, critical thinking, and constructive debate so that his planning group innovates as they solve problems. At times, a planner may have to inject more energy as a leader when a planning group reaches an impasse in the conduct of planning. In this case, he must possess the force of will to move the group beyond any challenges that obstruct their forward progress.

Assess. Periodic assessments help monitor the progress of a planning group. A planner can accomplish these either formally by conducting regular observations assessment meetings or informally by interfacing with the members of the planning group. Because assessments of planning are essentially subjective, a planner should seek a broad array of opinions regarding the approach the group is taking. Valid observations ought to compel a planner to rethink resource requirements, organizational structures, and management procedures as they relate to new

demands of the decision-making effort. Perhaps the most important assessment originates from the commander for whom the planning group ultimately works. A planner must remain attuned to how his commander perceives the progress of planning. He may have to adapt his original planning design based upon the expectations of the commander as the planning situation unfolds.

Adapt. Situational changes inevitably require that a planner modify a planning architecture to produce relevant decision-making outputs. Adaptation depends upon a group's ability to learn. Learning relies upon the existence of feedback mechanisms that enable a group to sense and recognize when change has occurred so that they can then assess whether or not they need to modify their current direction of planning. Learning may require that planners solicit feedback from various levels within the operation-side of an organization. Planning groups must not isolate themselves from what is happening at the ground-level of execution. Rather, they must strive to achieve open dialogue and collaboration with people at various echelons of the organization to attain a holistic perspective on the evolving situation. Reliable feedback can then prompt a planner to make appropriate changes and adapt his planning group to better meet the needs of his command group. Adaptation requires that a planner consider how to modify his planning design to better augment the dynamics of a planning environment. When this occurs, the planning objectives usually remain the same while the approach of the group changes.

Transition. Transitions differ from adaptation in that a group stops working on its current planning orientation and refocus onto new objectives. This occurs because either current planning objectives have been met or the objectives are no longer relevant to the needs of decision makers. During transition, a planner brings closure to the old focus of planning and reorients his group onto a new problem. A planner develops a new planning architecture from the very first step of design.

A Procedure for *Planning-to-Plan*

Figure 11, Procedures for *Planning-to-Plan*, expands on the functions associated with each of the seven sub-processes of planning architecture. A planner can modify this general outline based upon the specific characteristics of his planning environment.

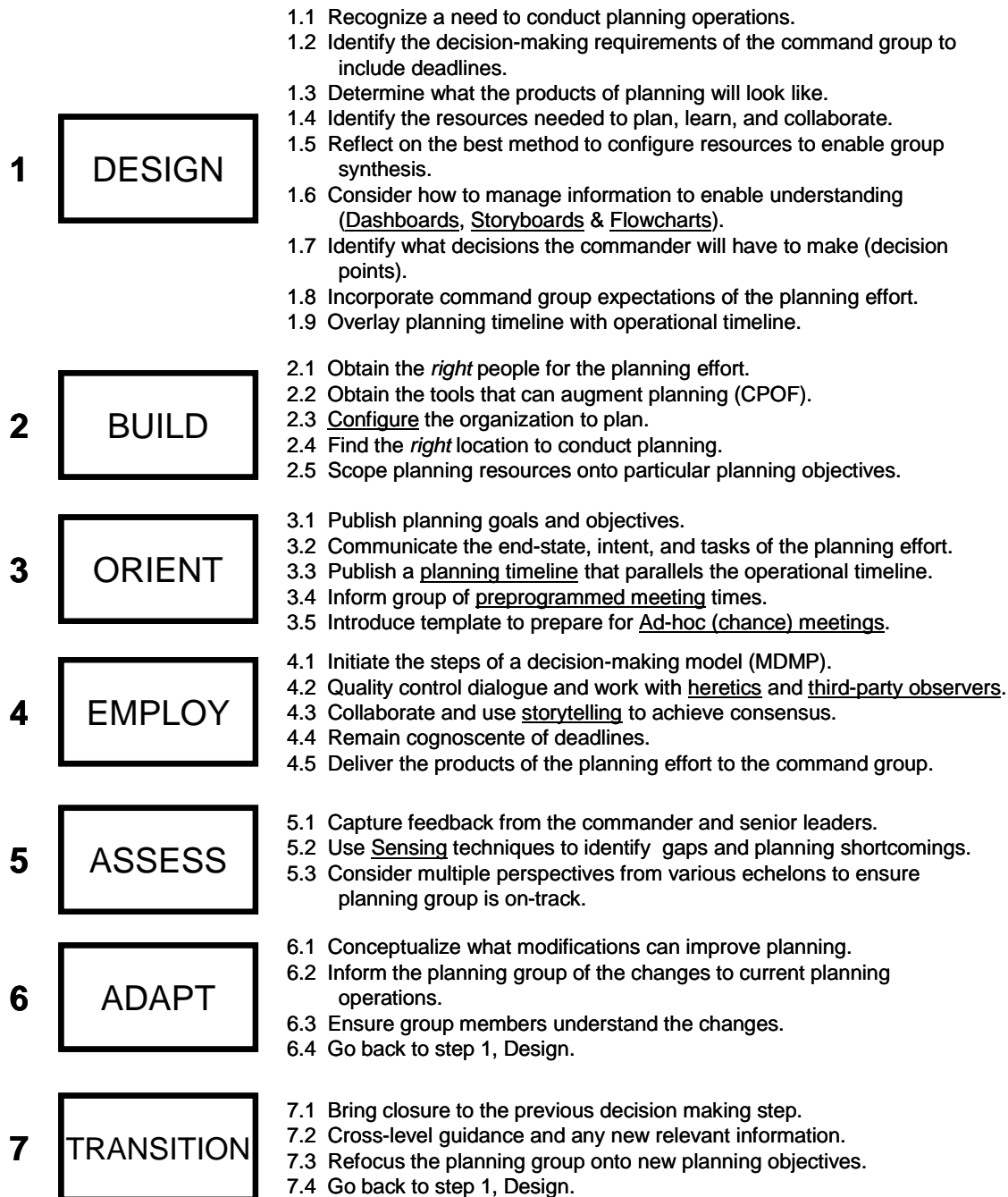


Figure 11 – Procedures for *Planning-to-Plan*

A standardized approach to planning architecture like the one presented in this section holds several possibilities for the Army planning community. Foremost, a *plan-to-plan* model provides precedence in the way of approaching planning design. Secondly, it creates awareness to the techniques that other planners use to facilitate group focus, connectedness, understanding, and adaptation. The intent of this monograph is not to codify another dogmatic, step-by-step process into doctrine, but rather to demonstrate how one can augment formal decision-making by establishing an underlying planning structure. The model is not a prescriptive checklist. Instead, it is one way to approach the design, building, and marshaling of a planning group so that a planner can better fulfill decision-support requirements within the capabilities of planning resources. The ultimate success of a planning group depends upon how well it synthesizes and learns as it responds to the demands of its command group and the situation. The Architecture of Planning model simply provides one method for *planning-to-plan* so that, “when placed in the same system, people, however different...produce similar results.”⁷⁸

⁷⁸ Senge, *Fifth Discipline*, 42.

CONCLUSION

While this monograph achieves its aim of confirming that *plan-to-plan* techniques exist, the author recognizes that the study falls short of adequately addressing several aspects regarding the subject of *planning-to-plan*. Research, for one, predominantly focused on insights from U.S. military planners with some inputs from allied nation officers. Moreover, research into the academic and business communities focused on literature found in scholarly journals. Broader research would have undoubtedly uncovered a greater number of beneficial techniques. Secondly, the criteria used to accept *plan-to-plan* techniques provided the author with wide latitude of judgment as to the relevance of each technique. Focus, connectedness, understanding, and adaptability are important factors concerning *planning-to-plan*. But, no quantifiable standard of measurement was ever established as to what constitutes a definite ‘yes’ or ‘no’ in terms of criteria acceptability.

This study presented a *plan-to-plan* model that illustrates the underlying structure to planning. An effective structure moves a group forward during planning and enables them to learn and synthesize so that they collectively derive innovative solutions to complex problems. The author believes that use of this *plan-to-plan* model can help novice planners perform more like seasoned planners. Yet, this hypothesis was never validated during the course of research. Whether the model would, in fact, improve the synthesis and learning of a planning group is a question that still lingers. At this juncture, the *plan-to-plan* model stands as an untested concept. Lastly, the author states that synthesis is the most critical element regarding innovative problem-solving. Because *planning-to-plan* delves into the ‘soft’ side of planning that involves people and group dynamics, the author relied heavily upon the subjective opinions of experts in the field. There was no qualification of these opinions beyond consideration of the source and the application of four broad criteria. In retrospect, a more substantial discussion should have elaborated on what synthesis is and why learning is so important. Much of the logic that helped

construct the *plan-to-plan* model, therefore, is backed by nothing more than what appears to work for experienced and successful planners in the field.

In lieu of these shortcomings, the monograph does make substantial strides towards a better understanding of the structure that enables a group to solve complex problems. It establishes a definition for *planning-to-plan* and identifies its three essential components of designing, building, and marshalling a planning effort. It also uncovered that the best way to create a learning organization is to connect people through open dialogue. By engaging each other in debate, the members of a group learn, enhance collective understanding, and arrive at more innovative solutions to complex problems. Open dialogue can even occur through virtual space when planning group members are geographically separated. Effective planning, therefore, unfolds as an improvisation that melds science and art together and allows people to synthesize to learn.

There are techniques that help planning groups conduct planning better. Most seasoned planners have had to learn these techniques through trial and error. By reading and understanding the techniques presented in this monograph, novice planners can learn some of the lessons of experienced planners without having to rediscover what others already know. As research into the techniques of *planning-to-plan* progressed, similarities appeared concerning how experienced planners approach decision-making. This discovery led to the concept of planning architecture.

The notion that there is an underlying structure to planning that drives a group forward in decision-making is perhaps the most important finding of this study. Further investigation revealed that seven sub-processes of planning architecture: design, build, orient, employ, assess, adapt, and transition each contribute to the synthesis of a planning group. The synthesis of a group is the key determinant of how well a group learns so that it can collectively generate innovative solutions to complex problems. When the techniques of *planning-to-plan* were subsequently combined with the flow of the seven sub-processes of planning architecture, a *plan-to-plan* model emerged. The model illustrates the interrelation between the decision-making

needs of a command and the planning resources of a group. It also depicts the flow of the underlying structure to planning which provides a new mechanism of procedural understanding to planning group members. As the architecture of planning took form during the writing of the monograph, more questions regarding *planning-to-plan* unfolded.

The results of this study call for follow-on research into the dynamics of *planning-to-plan*. First of all, this monograph captured the techniques from only one segment of the professional military planning community. The majority were extracted from people somehow affiliated with the School of Advanced Military Studies at Fort Leavenworth, Kansas. Just like the majority of the World's greatest jazz musicians were not trained at Julliard, the majority of Army planners learn the skill of planning on the job without much formal instruction. The Army should continue to pursue ways to connect the Army planning community and familiarize planners to effective *plan-to-plan* techniques.

There are several alternatives that could help the Army planning community prompt greater awareness to planning techniques. The Command and General Staff College could expand SAMSNET as a collaborative tool and encourage greater dialogue about *plan-to-plan* techniques that work. The Army could sponsor a magazine devoted specifically to the practice of planning and making decisions. This would provide a forum for seasoned planners to publish the lessons they learn in the field. Perhaps an essay contest would generate more visibility on the subject. Sir Robert Falcon Scott may have led the men of his expedition to their death. But, he did the interested world a favor by meticulously scribing his successes and failures into diaries. The narratives provide amazingly candid insights into the logic behind his decisions. Ice-travelers, businessmen, and military planners can still learn from his diaries even though they are almost a century old. Experienced planners can pass similar lessons-learned onto novice planners.

The second area that merits additional research is planning architecture. The *plan-to-plan* model proposed in this monograph needs to be validated through field tests. The tests need

to show that its practical application truly enables a planning group to synthesize and learn. Moreover, another study could prove that innovative solutions to complex problems are, in fact, linked to the level of learning and synthesis of a planning group. Lastly, another study could establish that the *plan-to-plan* model proposed in this study bridges the gap across the various decision-making frameworks of U.S. military service components. If this is the case, every uniformed military officer could become familiar with the functions of *planning-to-plan* and operate at the Joint level of planning with greater familiarity to decision-making procedures.

Problem-solving pervades every echelon of organizations across a spectrum of disciplines. For military planners, command groups will continue to expect greater proficiency in decision-making support as operating environments grow more complex. *Planning-to-plan* provides a set of techniques and a method that can help. But, there are many more facets to group decision-making that the Army should explore. For one, the Army planning community has to find a better way to tap-into the knowledge of its successful and experienced planners. It should centralize the latest trends, developments, and techniques of *planning-to-plan*. Finally, the Army must create a better forum for seasoned planners to collaborate and exchange ideas with its burgeoning population of novice planners. Change is required! However by recognizing that a problem exists, the Army is well on its way towards helping its planners solve complex problems in a group environment.

APPENDIX ONE: Review of Doctrine

Appendix One explores several of decision-making frameworks that exist within the U.S. and NATO military planning communities to determine what literature exists regarding *planning-to-plan*. Each branch of the U.S. military ascribes to its own decision-making models. The Air Force uses the Joint Air Operational Planning Process (JAOPP) and augments planning with Air Tasking Orders (ATO). The Army plans with the Military Decision Making Process (MDMP). The Marine Corps employs the Marine Corps Planning Process (MCPPE) and its condensed version, the Rapid Response Planning Process (R2P2). The Navy uses the Navy Planning Process (NPP). At the Joint level of planning, Joint Publication 5.0 specifies the MDMP as the primary decision-making framework to be used in conjunction with the Joint Operation Planning and Execution System (JOPES). Finally, NATO forces plan with the Operational Planning Process (GOP).⁷⁹ The following study seeks to uncover *plan-to-plan* techniques that help a design and exercise planning in a group environment.

Joint Publication (JP) 5-0, Doctrine for Joint Operations Planning

JOPES is the primary method for planning at the strategic and operational levels of Joint planning. Supported commanders, the Chairman of the Joint Chiefs, the Secretary of Defense, and the President employ JOPES for deliberate and crisis action planning.⁸⁰ Deliberate planning occurs when time is available. Planners use this process to construct long-range war plans, for example, which they develop over the course of two years. However, the Secretary of Defense has recently directed that planners implement a new approach to Joint planning called Adaptive Planning (AP). He believes that the old-version of JOPES builds “perfectly detailed plans that

⁷⁹ Rick Newton, Colonel (Retired), U.S. Air Force at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 29 October 2005. The U.S. is the only nation of twenty-six member nations of NATO that does not use the NATO planning process.

⁸⁰ Joint Publication 5.0: *Joint Operations Planning*, III-6.

are perfectly wrong for the situation.”⁸¹ He argues that after two years, the nature of a situation will change so much that the initial assumptions used to plan become invalid. AP reduces the time it takes to create a deliberate Joint plan from two years down to six months.

So what will AP do that is different? The MDMP still underpins AP as its decision making framework. However, AP will integrate advances in information management systems such as virtual collaborative tools and databases to enhance the awareness of planners. Global Force Management (GFM) is one such database system that allows planners to prioritize competing war-plan requirements for military force resources. AP will apply a network of systems of systems to overcome *stove-pipes* and produce far more current deliberate plans to crisis action planners. Incorporated technologies will provide continual collaboration in virtual space so that units at all echelons can conduct near-parallel planning. AP will also enable senior leaders to think through problems and reach consensus faster and with greater accuracy. “AP will be more dynamic than JOPES planning ever allowed.”⁸²

Trickle-down procurements developed for the DOD’s AP program stand to improve the cognitive dimensions of planning in various areas such as knowledge management, learning, and collective understanding. Management of these systems will require that planners pay even greater attention to planning architecture as they design, build, and marshal planning groups.

Field Manual (FM) 5-0, Army Planning and Orders Production

FM 5-0, *Army Planning and Orders Production*, is the U.S. Army’s doctrinal guide to planning. It outlines the seven major steps and thirty-seven sub-steps of the Army’s decision making framework, the MDMP. These steps include Mission Analysis, Course of Action (COA) Development, COA Analysis (war-game), COA Comparison, COA approval, and Orders

⁸¹ Tim Hoffman, Colonel (Retired), U.S. Army, ODASD (R&P), at the Pentagon, Alexandria, Virginia, interview by author, 17 November 2005. The DOD intends to replace JOPES with the Adaptive Planning Model within the next few years.

⁸² Ibid.

Production. Chapter Two of FM 5.0 provides a discussion of problem-solving theory and outlines the logic behind the systematic approach of the steps of the MDMP. It also discusses creative and critical thinking and even provides insight into the planning challenge of ‘groupthink.’

Army problem-solving consists of seven steps: identify the problem, gather information, develop criteria, generate possible solutions to the problem, analyze possible solutions, compare possible solutions, and complete the problem solving process. Step one, defining the nature of the problem, constitutes the foundation for all future decision-making that involves that particular problem. Grasping the true nature of the problem predicates effective application of capabilities upon which operational success usually hinges. FM 5-0 recommends that planners write a problem statement to achieve collective understanding and buy-in regarding the nature of the problem.⁸³ Unfortunately, the MDMP does not include writing a problem statement in its framework.

The MDMP stands as a good guideline for focused decision-making, but it does not explain how a planner designs, builds, or marshals a planning group to synthesize and learn. Doctrine discusses the importance of some effective characteristics of planning such as collaboration and dialogue. However, the MDMP does not outline any steps in which a planner should incorporate particular beneficial techniques to facilitate learning and synthesis within a planning group. In terms of organizing a planning effort, the MDMP provides no guidance concerning how planners can configure groups to think critically and collaborate. Because the Army does not address *planning-to-plan* functions in its doctrine, the use of the MDMP requires the experience of a seasoned planner to create an underlying structure to planning that guides a group from problem to solution.

⁸³ FM 5-0, *Army Planning*, 2-7.

Joint Pamphlet 7, Operational Implications of Effect-based Operations (EBO)

EBO is part of emerging Joint planning doctrine and contains some good planning to plan tools that foster situational understanding. EBO links actions to outcomes and is built upon the theory of causality in which planners link cause and effect relationships to understand how best to employ their forces. To understand the environmental factors involved, planners conduct an Operational Net Assessment (ONA). By using a system of systems analysis (SoSA), planners discern important political, economic, military, information, and infrastructure (PEMSII) elements of a given operating environment as nodes.⁸⁴ Nodes are connecting points in the interwoven network of operational environmental factors and are usually linked to each other in different capacities. Pressure exerted on one will cause a ripple effect on another.

Planners use a systems approach to uncover what actions are needed to bring about desired effects in the operating environment. EBO takes the position that a holistic view of a problem is too large. Planners must circumscribe a problem and identify its boundaries with the variables they deem endogenous and exogenous – which variables are internal or external to the bounded problem set. To solve a problem, planners first bound the problem. Then they determine what factors exist inside and outside of the boundaries, identify autonomous mechanisms, and review what is being proposed.⁸⁵ ONA is a new process that will help revolutionize planning design and mutual understanding in group problem solving.

⁸⁴ Joint Doctrine Series Pamphlet 7, *Operational Implications of Effect-based Operations (EBO)*, The Joint Warfare Center, United States Joint Forces Command, 17 November 2004, p 10.

⁸⁵ William J. Gregor, Ph.D., Professor, at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, 8 August, 2005. Dr. Gregor argues that EBO is a good change to planning doctrine and that it will help break the Army away from its focus on center of gravity analysis. He claims a center of gravity approach misleads planners into thinking they can attribute the rudiment of a problem to one singular entity. Military science is a combination of science and social science. Aspects of social science go beyond one singular problem and often have multiple critical nodes that are interrelated to one another. Pressure on one node such as destabilizing the economic infrastructure of a society will infallibly cause a reaction from other societal dimensions such as increased civic discontent. These are

JP 3-30, Command and Control for Joint Air Operations

The Air Force (USAF) uses the Joint Air Estimate Process (JAEP) to produce a Joint Air Operations Plan (JAOP) and is described in Joint Publication 3-30, *Command and Control for Joint Air Operations*. The JAEP is a six-step process similar to the decision making frameworks of the other services. It consists of: Mission Analysis, Situation and COA Development, COA Analysis, COA Comparison, COA Selection, and JAOP Development. JP 3-30 provides some cursory plan to plan material regarding how “getting organized” for a planning group and its “planning specialties” section provides a list of attachments who can be incorporated as SMEs for planning.⁸⁶ USAF planning begins with receipt of a task from a higher headquarters element. Planners rarely have to struggle with planning recognition mechanisms or methods to circumscribe a problem. They simply look at the mission from higher and start planning with an estimate of the situation.⁸⁷ For this reason USAF planning procedures offer very little in terms of plan to plan for planning groups facing complex problems.

Naval Warfare Publication (NWP) 5-01, Navy Planning

Navy planning focuses on operational level campaigns that rely upon the maintenance of organizational systems and emphasize adherence to routine operations. The Navy uses a six step decision making framework called the Navy Planning Process (NPP) that is outlined in NWP 5-01. Its six-steps are: Mission Analysis, COA Development, COA Analysis (War Game), COA Comparison and Decision, Plans and Orders Development, and Transition. With the exception of Transition, the steps of the NPP function in the same manner as those in the MDMP. Transition involves the delivery of the plan or order to the subordinate unit and the continuation of running

only two examples of many into which planners must gain insight to understand the cause and effect nature when they inject military force.

⁸⁶ Joint Publication 3-30, *Command and Control for Joint Air Operations*, Maxwell Air Force Base, AL, 5 June 2003, pp. 5-8.

⁸⁷ *Joint Air Estimate Planning Handbook*, Joint Air Operations Course, Warfare Studies Institute, Maxwell Air Force Base, AL, 3 January 2005, pp. III-1 thru III-4.

estimates to include branch and sequel plans by the staff. NWP 5-01 relies upon center of gravity analysis from which planners balance critical capabilities (CC), critical requirements (CR), critical vulnerabilities (CV), and decisive points. But, modern Navy doctrine provides very little in terms of *planning-to-plan* methods.

The decision making culture of the Navy contrasts starkly with that of the Army. Since the Second World War, the Navy has focused on two types of missions: self defense of its fleet assets and fire support.⁸⁸ Protection afforded by the sea has caused its water-born fleet to take on a more technical nature that focuses on its stand-off capabilities. With few exceptions, its enemies generally have to employ sophisticated measures to gain the proximity to naval vessels especially when they are away from port. The Navy simply does not face the same level of risk to the Army and Marine Corps because its forces do not operate in and amongst the populace of the operating environment. Naval commanders consider themselves to be already organized as standing joint forces and their planning focuses on flexibility and use of SOPs.⁸⁹ While *Planning-to-plan* insight is limited, Navy doctrine does encourage its planners understand both JOPES and the MDMP when operating at the Joint level.⁹⁰

Marine Corps Warfare Publication (MCWP) 5-01, Marine Corps Planning Process

Marine Corps decision-making frameworks contain useful *planning-to-plan* aspects. MCWP 5-1, *Marine Corps Planning Process*, describes two processes used by the Marines for decision-making: the Marine Corps Planning Process (MCP) and the Rapid Response Planning Process (R2P2). MCP serves as the Marine Corps' deliberate planning process. While its

⁸⁸U.S. Department of the Navy, *NWP 5-01: Navy Planning, Final Draft*, November 2005, 1-4.

⁸⁹ Patrick Sweeney, Colonel (Retired), U.S. Army, at the Naval War College, Newport, Rhode Island, telephonic interview by author, 4 November 2005. Colonel Sweeney is the Director of Planning at the Naval War College in Newport Rhode Island. The Goldwater-Nichols Act of 1986 brought about a greater need for interoperability at the Joint level and has subsequently compelled the Navy to rethink the continuing education of its officers.

⁹⁰ NPP, 1-8.

format looks like the NPP, MCPP's practical application mirrors that of the MDMP. Marine planners will often confess to using aspects of the MDMP process as they exercise the MCPP framework, particularly regarding mission analysis. But like the MDMP, MCPP has significant gaps regarding planning design in terms of guidelines that could help planners approach a planning effort. The Marine's R2P2 crisis action planning framework, on the other hand, provides some answers.⁹¹

R2P2 is a condensed MCPP-based planning cycle in which a planning group has six hours to move from concept to execution. In order to perform R2P2, planners must have four organizational capabilities: planning cells, planning and operations SOPs, intelligence, and information management. Planning cells include, but are not limited to, a crisis action team (CAT), battle staff, and mission planning cells and often include a reach-back function to retrieve subject matter experts (SMEs). R2P2 discusses the importance of SOPs for Marine Corps planning to define the role each individual will play in a planning group. A planner, for example, should focus on critical thinking and complex problem-solving during planning not routine matters. In terms of intelligence, the Marines encourage their planning staffs to be familiar with the *Generic Intelligence Requirements Handbook* (GIRH) which contains recommended essential elements of information for various missions. Lastly, the Marines focus on managing information to increase the speed and volume of information that planning staffs can tap into as required. R2P2, in contrast to the MDMP, encourages extensive commander involvement during planning and the use of a playbook of battle-drills that subordinates are familiar with. For example, instead of task organizing an entire unit from scratch, planners plug-in predetermined light, medium, and heavy force packages that have been pre-tailored for an expected mission.

⁹¹ The Marines have two doctrinal planning manuals: MCWP 5-1, *Marine Corps Planning Process*, outlines the decision making process MCPP and R2P2 while MCDP 5, *Planning*, covers the philosophy of planning. MCWP 5-1 reflects the sentiment that while Marine Corps has to support JP 5-0 (and consequently the MDMP) by order of the Goldwater-Nichols Act, Marine commanders and planners would rather use MCPP.

R2P2 provides an excellent decision-making framework for a planning group facing a time-constrained environment.⁹² However, the risk of crisis action planning is lack of depth in analysis that can only be obtained through a thorough and deliberate planning effort that uses a framework like MCPP. A battle-drill approach to planning often yields a more cursory understanding of complex problems that can result in an inappropriate application of military capabilities. Long-term campaign success depends upon a level of understanding and awareness that only time and intense study can yield. Professors at the Marine Corps' premiere planning academy, the School of Advanced Warfare (SAW) at Quantico, understand the importance of depth in understanding and they teach their students of the importance of 'push back.' When planners face a complex problem, they must take time to assess how they intend to approach problem solving. As professor Gordon Rudd says, "If you rush forward, you'll miss the perspective."⁹³ In this manner, a planning group can ensure that the science of analysis is balanced with the art of intuition as they arrive at decision recommendations for the command group. Unfortunately for the Marines, techniques like these find only a limited audience because they have not been codified into doctrine. Marine planning, specifically R2P2, offer some beneficial *plan-to-plan* elements.

NATO's Guidelines for Operational Planning (GOP)

The first two stages of NATO's Operational Planning Process (OPP) as described in the *Guidelines for Operational Planning* address some *planning-to-plan* functions. Each of NATO's twenty-six members with exception of the U.S. ascribe to the use of the GOP's five-steps which

⁹² Chuck Western, LtCol, U.S. Marine Corps and Robert McClary, LtCol (Retired), U.S. Marine Corps, Professor at the School of Advanced Military Studies, Fort Leavenworth, Kansas, interview by author, on 14 November 2005. R2P2 actually predates the MCPP as a non-doctrinally approved SOP for planning used by the Marine Expeditionary Unit Special Operations Capable (MEUSOC). The Corps has now instituted R2P2 as doctrine in Annex J of MCWP 5-1. Reference Change 1 to MCWP 5-1, Annex J, *Rapid Planning*, pp. J1-3.

⁹³ Gordon Rudd, Ph.D., at the School of Advanced Warfare, Quantico, Virginia, interview by author, 18 November 2005.

consist of initiation, orientation, concept development, plan development, and plan review. The GOP provides a framework that encourages planning design prior to diagnosing a problem and establishes planning goals such as horizontal and vertical collaboration, maximizing logical and creative thinking by staffs, and constant monitoring of political directions as the situation evolves. The GOP maps out venues for political, military, and timing mechanisms which serve as control rods during a planning process. Planning occurs in two stages: the military estimate (Initiation and Orientation) and planning development (Concept Development, Plan Development, and Plan Review). The first two steps, Initiation and Orientation, are particularly important in the doctrinal *planning-to-plan* quest because they specifically address several functions a planning group must accomplish prior to conducting mission analysis.

The Initiation phase occurs in three distinct phases: Preparation, mission assessment (MA), and Formal Initiation of Planning. Preparation identifies the need to conduct planning and includes the following tasks: the formation of an operational planning group (OPG), the establishment of liaisons, and the organization and management of information and collection to meet the projected needs of the planning effort. The MA phase determines the type, scope, and content of the planning effort. Advance Planning takes a long-term approach while Crisis Response Planning (CRP) provides more immediate solutions. Military end-states, missions, force capabilities, budgets, logistics, and risks are among the preliminary estimates compiled. Formal Initiation of Planning concludes the Initiation phase with a directive for planning.

The Orientation phase focuses the planning group onto *what* must be accomplished. It maps a process through which the group estimates what is going on in the situation, identifies the problem(s), reviews higher commander's guidance, conducts a mission analysis to promote understanding, and concludes with an operational analysis and design to define what can be done within the capabilities of the NATO force. All of these functions occur prior to development of the concept. Orientation requires a commander to issue planning guidance up-front and lead planners to map out a planning time-line that includes milestones for completion of various

phases. These functions assist in planning design and enable collective understanding and commitment-in of participating member nations.⁹⁴

Conclusion

U.S. and NATO military planning doctrines reflect some aspects of *planning-to-plan*. The Marine Corps' R2P2 addresses functions such as mapping out a planning timeline. The Army's MDMP is a useful tool, but is missing a doctrinal 'how-to' discussion for decision-making in a group environment. The Navy and Air Force offer the least. Lastly, NATO's GOP contains the most robust precedence for *planning-to-plan* and devotes its first two of five planning stages specifically to planning architecture. There is, however, no comprehensive *plan-to-plan* methodology in current military doctrine that provides a model that can assist planners in the organization or employment of planning resources and people to solve problems.

⁹⁴ Guidelines for Operational Planning Revision 1, July 2005, effective August 2005, as signed by the Supreme Allied Commander of Europe (SACEUR), 4-1 thru 4-28.

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